

Rock Products and BUILDING MATERIALS

INCORPORATING DEALERS BUILDING MATERIAL RECORD

Volume XVI.

CHICAGO, ILL., JULY, 22, 1915.

Number 6

CAROLINA PORTLAND CEMENT COMPANY

We are the largest distributors of Portland Cement, Lime Plaster, Fire-brick and General Building Material in the Southern States, and have stocks of Standard Brands at all of the Atlantic and Gulf Seaports, and at our interior mills and warehouses, for prompt and economical distribution to all Southern territory. Write for our delivered prices anywhere. Also Southern agents for the "Dehydratine" waterproofing material. "Universal," "Acme" and "Electroid" Brands Ready Roofing. Get our prices.

Charleston, S. C. Birmingham, Ala. Atlanta, Ga. New Orleans, La.



Phoenix Portland Cement

UNEXCELLED FOR ALL USES.

Manufactured by

PHOENIX PORTLAND CEMENT CO.

NAZARETH PA.

Sole Selling Agent, WILLIAM G. HARTMAN CEMENT CO.
Real Estate Trust Building, PHILADELPHIA, PENNSYLVANIA.



Special Features of This Issue

	Page
Editorial	19
Settle the Labor Unrest	19
Personal News Items	20
Prosperity Is on the Way	21
Builders' Poet	21
Value of Testing Materials	22
Specialties and Building Material Advertising	23
Badger State Dealers Enjoy Outing	24
Half-Year Shows Building Gain in New York	24
News of the Trade	25
Chicago Strike Over; Building Active	25
Merchandising That Wins	27
Price Cutting—and the Remedy	28
Widening Use of Concrete Posts	32
Cement News Items	36
Sales Conferences Needed	36
Demand for Cement Continues to Increase	37
What Cement Manufacturers Are Doing	37
New Cement Plant for Houston, Texas	37
Potash, Lime and the Potato Scab	39
Efficiency and Economy of Ground Storage	40
Quarry News in Brief	42
Sand and Gravel News	43
Sand-Lime Brick Notes	44
Gypsum Tonnage Decreases; Value Increases	46
News of the Clay Products Industry	47

Giant BELT for Your Drives
Granite BELT for Your Elevators
Supremo BELT for Your Conveyors

WHY? ASK US.

Revere Rubber Co.

BOSTON NEW YORK CHICAGO NEW ORLEANS PHILADELPHIA

Clinchfield Portland Cement Corporation

General Office and Mills:

Kingsport, Tenn.

Clinchfield Service

Service is an essential part of every package of merchandise you sell or buy.

Delayed shipments mean loss and dissatisfaction.

Prompt deliveries facilitate profits and encourage business.

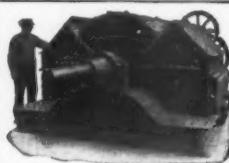
Protect yourself and your customers by ordering "CLINCHFIELD."

Sales Offices:

KINGSPORT, TENN.

1305 Union Trust Bldg.
CINCINNATI, OHIO

908 Commercial Bank Bldg.
CHARLOTTE, N. C.



Patented

"PENNSYLVANIA"

Hammer Crushers For Crushing and Pulverizing Lime, Limestone, Gypsum, Marl, Shale, Etc.
Main Frame of Steel, "Ball and Socket" Self-aligning Bearings; forged Steel Shaft; Steel Wear Liners; Cage adjustable by hand wheel while Crusher is running.
No other hammer Crusher has such a big Safety Factor.

Pennsylvania Crusher Co.
New York PHILADELPHIA Pittsburgh



Saylor's Portland Cement

First Portland Cement made in America
Used by the United States Government since 1876

COPLAY CEMENT MANUFACTURING CO.

SALES OFFICES:

Fifth Avenue Building,
NEW YORK CITY

44 Bromfield Street,
BOSTON

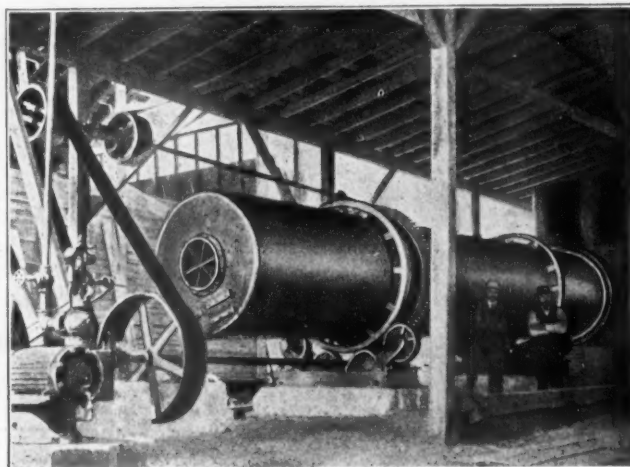
Land Title Building,
PHILADELPHIA

ESTABLISHED 1866.

RUGGLES-COLES DRYERS

STATIONARY AND PORTABLE

"Built to Dry at the Lowest Ultimate Cost"



Seven different types of dryers in many sizes and special dryers designed and built to meet unusual conditions. We are now drying 67 kinds of materials, among them sand, rock, gravel, gypsum, coal, clay, etc.

Our many years of experience is at your service

Ruggles-Coles Engineering Co.

CHICAGO OFFICE,
McCormick Bldg.

50 Church Street
NEW YORK

Daily Capacity
7000 Barrels



The Quality
Cement of the
Middle West

MORE THAN FIFTEEN YEARS OF SATISFACTION

THREE PLANTS: ALPENA — DETROIT — WYANDOTTE

HURON AND WYANDOTTE

Water and Rail Facilities Best Serve the
Entire Middle West

EVERY BARREL TESTED AND GUARANTEED. SOLD BY THE BEST DEALERS EVERYWHERE

Main Office: 1525 Ford Bldg., Detroit, Michigan

Daily Capacity
3000 Barrels



The Leading
Concrete
Cement

Tell 'em you saw it in ROCK PRODUCTS AND BUILDING MATERIALS



Out of the Waste Basket

There's a man down in Texas who knows dump wagons. It's his business to know them—for he's president of a big hauling and transfer company—The Merchant's Transfer Company, of San Antonio.

His name is Zoller—CHARLES ZOLLER.

Mr. Zoller happened into the office of the W. A. Kelly Company, of San Antonio, the other day. As he sat talking, his attention was attracted by an advertising folder sticking out of a waste basket. He picked it up and slipped it into his pocket.

"I threw it away because I'm not interested in dump wagons any more," said the man he was talking to.

Back in his office, Mr. Zoller pulled out the folder. "TROY Ajax—155 Points Right" was the title he read. Inside were photographs and description of Troy's 1915 model front-wind dump wagon, with its self-raising doors, arched rear axle and other distinctive features.

Several days later a Troy Salesman called upon Mr. Zoller.

"You can't interest me a bit; I'm waiting for a man to come along that sells this wagon," and he reached for the folder he had rescued from the waste basket.

It didn't take long after that, of course, for Mr. Zoller to write his name on the dotted line. The order was for ten wagons.

"You know," he remarked afterwards, "I was so taken up with the wagon I never looked to see who made it."



Into an Order

Write for Folder 2--R. P.

The Troy Wagon Works Co.
Troy, Miami County, Ohio

New York
50 Church St.

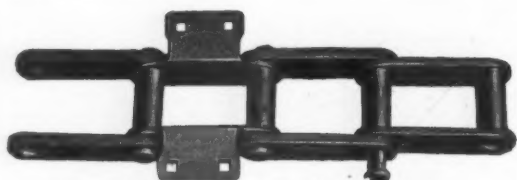
Detroit
113 First St.

Philadelphia
1606 Cherry St.

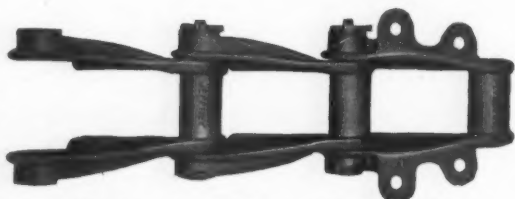
Chicago
900 Lytton Bldg.



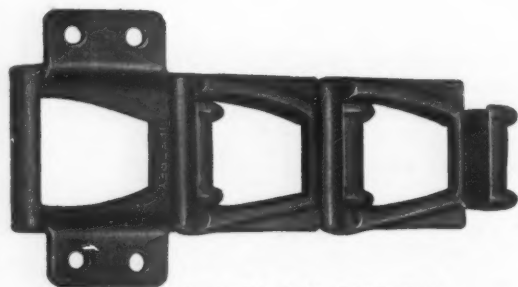
Tell 'em you saw it in ROCK PRODUCTS AND BUILDING MATERIALS



Manganese Steel "Hercules" Chain



Manganese Steel "800 Series" Peerless Chain



Manganese Steel "Detachable Link" Chain

Eliminate Break-Downs and Shut-Downs in Your Plant

by Equipping your Elevators and Conveyors with

JEFFREY MANGANESE CHAINS

They Stand the Wear and Tear of Grit and Grind and can be relied upon for constant service and maximum output.

"Substitutes" for Malleable Chains. Work over many sizes of Standard Sprocket Wheels.

Their use means less expense, longer life, fewer renewals, and a reduction in your over-head costs.

Write for Bulletin No. 152-35, illustrating the chains we now have in stock for immediate shipment, also copy of General Catalog No. 83-35, on our complete line of Elevating, Conveying, Screening, Crushing, Pulverizing and Power Transmission Machinery.

Jeffrey Mfg. Company, 935 N. Fourth St., Columbus, O.

New York
Boston

Philadelphia
Pittsburgh Chicago

Charleston, W. Va.
Birmingham Montreal
Denver

What Material Do You Grind

or want to grind to Powder?

How fine do you want to grind it?

Just give us that information, and then let it be "up to us" to demonstrate what, if anything, we can do to save or make money for you with the

RAYMOND PULVERIZING- AIR SEPARATING SYSTEM

It is a literal fact that in many cases a manufacturer's statement to us on these two points has led to a thorough investigation resulting in installations of the Raymond System. And these installations have proven extremely profitable to such manufacturers in **every case**.

In many other instances our investigations have shown that the Raymond System could not be profitably adopted, and we have been quick to say so.

The Raymond System is not a ready-made affair, but is susceptible of great elasticity of application. This is proven by the great variety of materials handled by it.

Wherever the Raymond System is applicable, it produces tremendously profitable results.

It certainly ought to be worth your while to **know** whether we can make money for you or not, when it is so easy for you to make sure.

And bear in mind that wherever the Raymond System is installed, the results we promise are absolutely guaranteed.

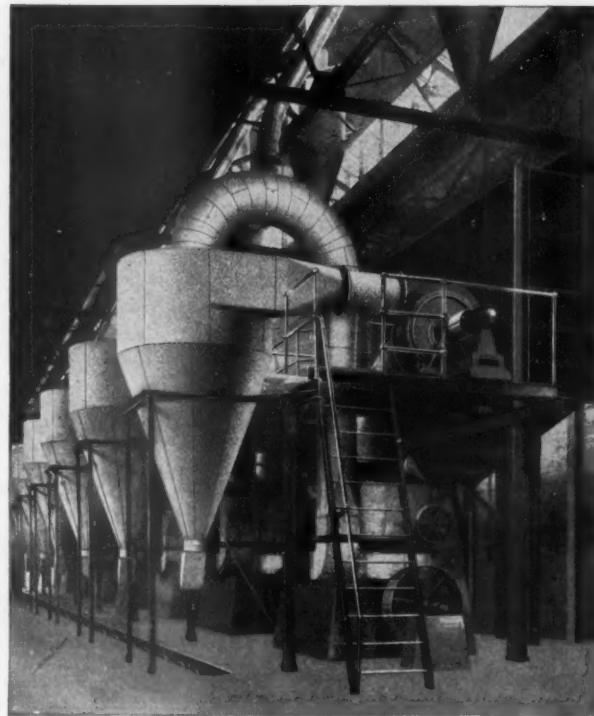
Just write us your answer to the above questions. It may lead to big profits for you.

Clip out the reminder coupon now, and write us at once.

CUT OUT THIS COUPON

As a Reminder to Write

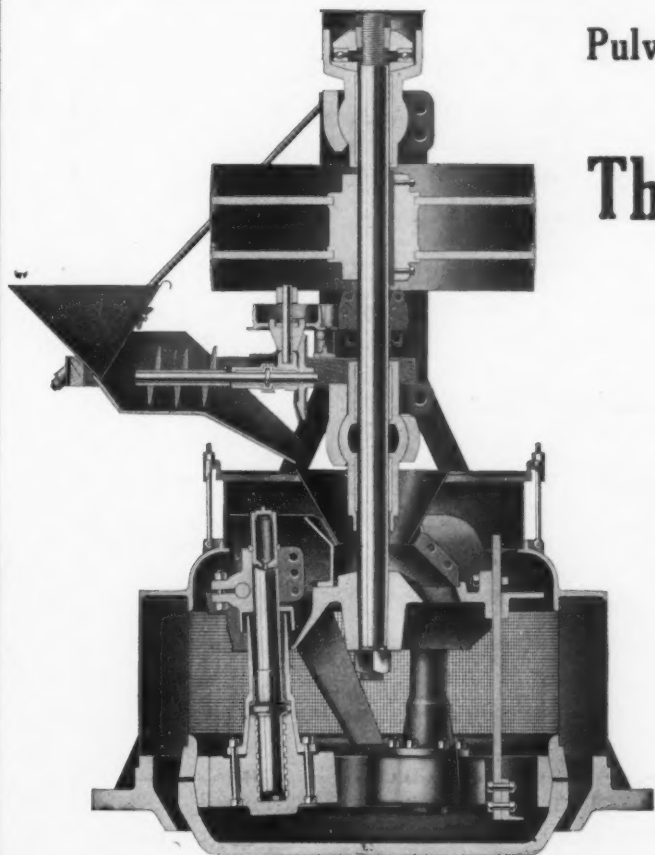
Raymond Bros. Impact Pulverizer Company 1304 North Branch St.,
Chicago
about the Raymond System of Grinding and Separating



The Raymond System in a Big Cement Plant

We design special machinery and methods for Pulverizing, Grinding, Separating and Conveying all powdered products. We manufacture Automatic Pulverizers, Roller Mills, Vacuum Air Separators, Crushers, Special Exhaust Fans and Dust Collectors. SEND FOR OUR BOOK.

Tell 'em you saw it in ROCK PRODUCTS AND BUILDING MATERIALS



Pulverized Limestone for Agricultural Purposes
is Economically Produced by

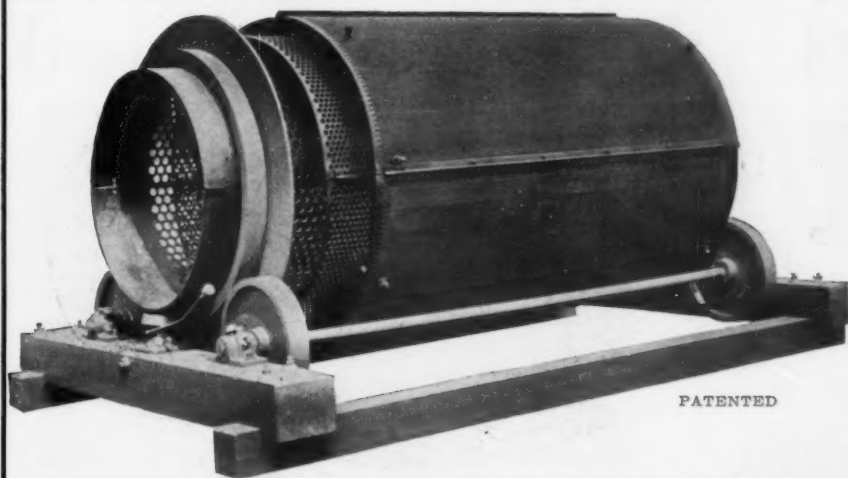
The Bradley Three Roll Mill

It pulverizes raw limestone without drying at the rate of from 5 to 7 tons per hour to the fineness recommended by all agricultural experiment stations, and at such an exceptionally low maintenance cost that no other type of mill should be considered. It is not necessary to screen the material after it leaves the mill, as it cannot leave until it is of proper fineness. This should be considered carefully as it simplifies the installation and reduces cost of maintenance. Why not investigate.

MANY MILLS IN SUCCESSFUL OPERATION

Send for Catalog 42 and List of Installations

Bradley Pulverizer Co., Boston
Massachusetts



The O'Laughlin Screen

Stands for

LARGE CAPACITY

In Small Space

*Write for Description
Used in the Most Modern Plants*

Johnston & Chapman Co.

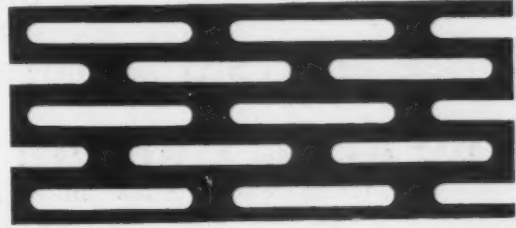
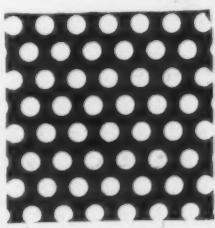
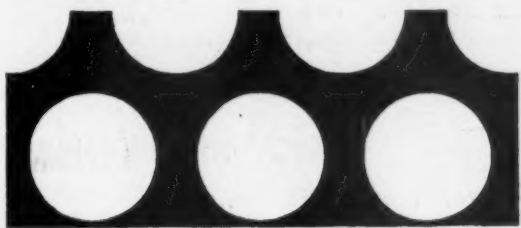
2921 Carroll Avenue

CHICAGO

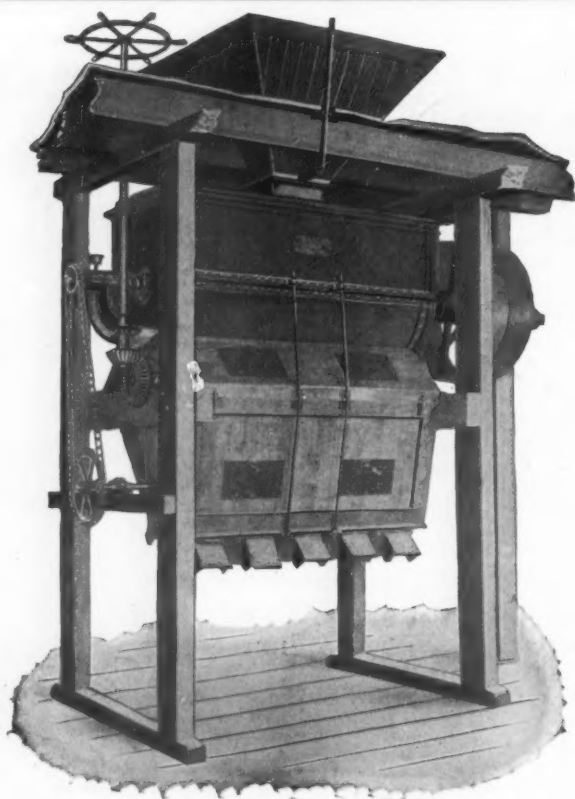
SCREEN SECTIONS for ALL SIZES of REVOLVING SCREENS

CONICAL SCREEN SHELLS
FOR GRAVEL WASHING PLANTS

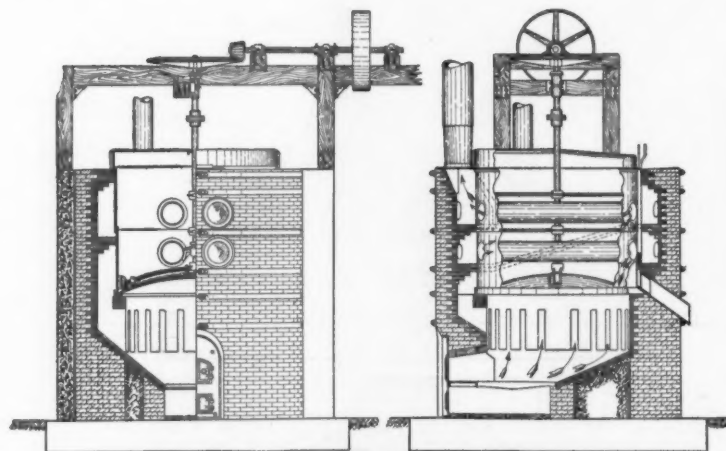
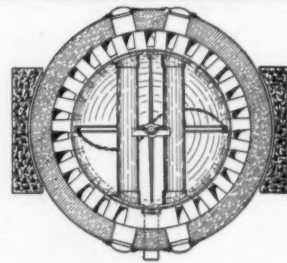
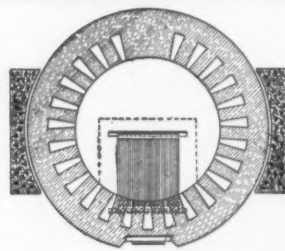
Everything in Screens Made Right, for
Crushed Stone, Gravel, Sand, Clay, Ore, Etc.



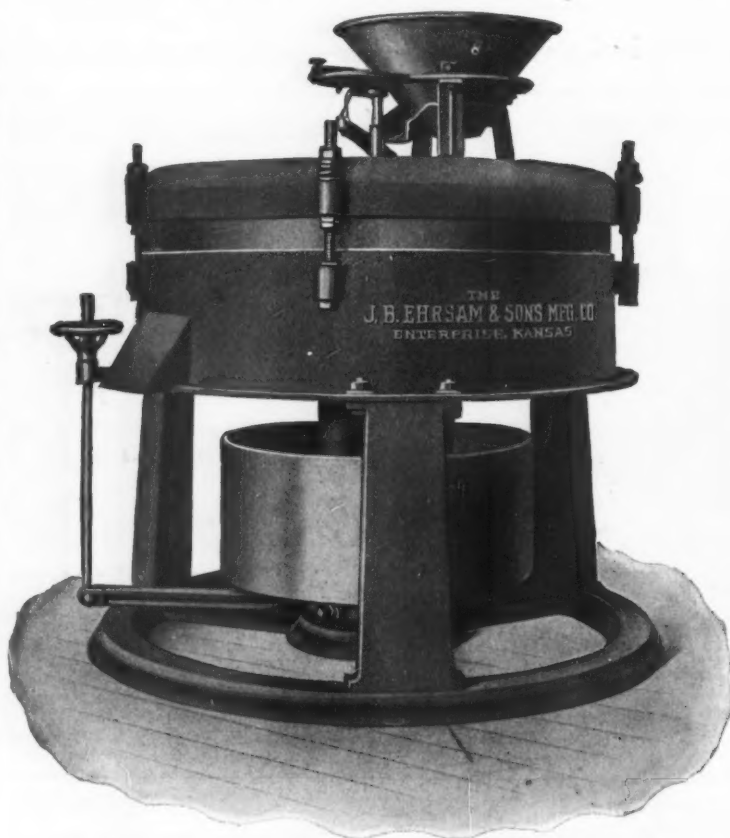
Tell 'em you saw it in ROCK PRODUCTS AND BUILDING MATERIALS



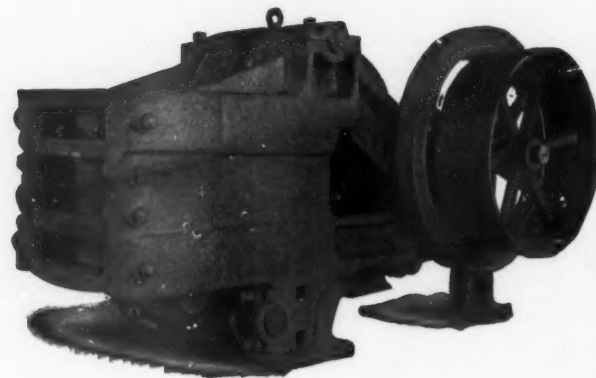
Enterprise Noiseless Mixer



Ehrsam Calcining Kettles—Built in 5 sizes—6-8-10-12-14 feet in diameter, having capacity of from 3 tons to 20 tons to the charge



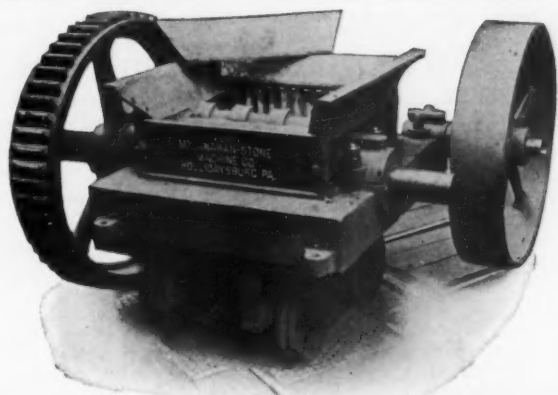
Horizontal and Vertical Heavy Duty Grinding Mills



Jaw Crushers Built in all sizes up to 24" x 34" jaw opening. Rotary Fine Crushers in sizes up to 42" inside diameter.

The J. B. Ehrsam & Sons Mfg. Co., ENTERPRISE, KANSAS
Manufacturers of Plaster Mill Machinery, Conveying, Elevating and Power Transmission Appliances

Tell 'em you saw it in ROCK PRODUCTS AND BUILDING MATERIALS



OUR SINGLE ROLL CRUSHER IS AS SIMPLE AS CAN BE

Is easily fed, makes less fines than either a Gyratory or Jaw. Capacity 5 to 500 tons per hour. For crushing Limestone, Dolomite, Hard Rock, Phosphate, Cinders, Etc. Screens of all descriptions. Washers for dirty stone.

Ask for Information

McLANAHAN-STONE MACHINE CO., Hollidaysburg, Pa.

**BACON & FARREL
ORE & ROCK
CRUSHING & WORLD KNOWN
ROLLS-CRUSHERS**

EARLE C. BACON, ENGINEER
HAYMEYER BUILDING, NEW YORK

Are You Interested in Rock Crushing?

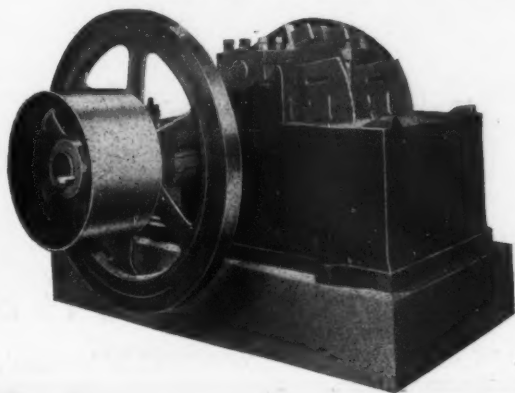
If you are, you will be interested
in the following information.

A Partial Description of the Parts of the Blake Type Crusher

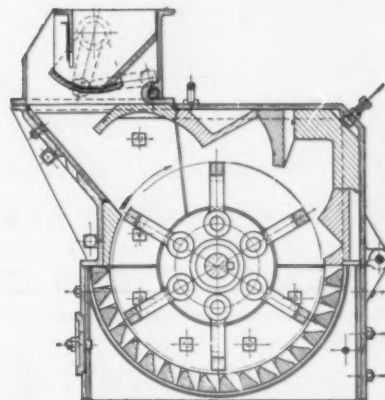
The eccentric shaft is very large and accurately turned from solid stock of high grade carbon steel. The eccentric bumper, or cam, is very heavy, and is babbitted with a high grade of babbitt. The bumper receiving the movable jaw is very heavy and is protected on the bottom with a cast steel strip held securely in place with two bolts through the bumper. This steel strip, when worn, can be replaced at a small cost, thereby prolonging the life of the bumper indefinitely.

Write for Our Complete Catalog

Webb City and Cartersville Foundry & Machine Works
Main Office, WEBB CITY, MO.



Pulverators



Cross Section of Allis-Chalmers Pulverator (Patented)

Pulverizing by a New Principle

**Note that Involute Curve
The Direction of Rotation**

Advise us your requirements concerning capacity
and fineness wanted

Forward Sample of Your Material

**Complete Rock Crushing Plants and Cement Mills—
Power Plants—Electric Motors**

Allis-Chalmers Manufacturing Company

OFFICES IN ALL PRINCIPAL CITIES

MILWAUKEE,

WISCONSIN.

For All Canadian Business Refer to Canadian Allis-Chalmers, Ltd., Toronto, Ont.
FOREIGN REPRESENTATIVES:—Frank R. Perrot, 893 Hay St., Perth, W. A.
Frank R. Perrot, 204 Clarence St., Sydney, N. S. W. Mark R. Lamb,
Huerfano 1157, Casilla 2653, Santiago, Chile. H. I. Keen, 732 Salisbury
House, London Wall, E. C., London, England. American Trading Co., Repre-
sentative in Japan, South America, China and Philippine Islands. Herbert
Ainsworth, Johannesburg, So. Africa.

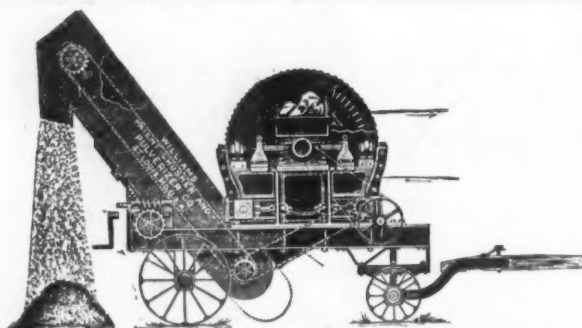
HOISTING rope of every description for elevators,
mines, coal hoists, ore hoists, conveyors, derricks and
cranes, stump pullers, steam shovels, dredges, skidder
rope for logging, ballast, unloading. Towing hawsers, moor-
ing lines, tiller rope, and ship's rigging. Power transmission.
Suspension bridge cables. Rope for all haulage purposes.
Flattened strand rope. Non-spinning rope. Steel clade
rope. Locked coil track cable for aerial tramways. Flat
rope.

**Special rope made to order to
suit any purpose**

**American
Steel & Wire Company**

Chicago, New York, Worcester, Cleveland, Pittsburgh, Denver. Export
Representative: U. S. Steel Products Co., New York. Pacific Coast
Representative: U. S. Steel Products Co., San Francisco, Los Angeles,
Portland, Seattle.

Tell 'em you saw it in ROCK PRODUCTS AND BUILDING MATERIALS



PORTABLE COMBINED CRUSHER AND PULVERIZER

The Williams Combined Crusher and Pulverizer. Two Machines in One

This new Williams Combined Crusher and Pulverizer actually does the work of two machines—it will crush and pulverize limestone from cubes 5"x10" to wheat size and finer **IN ONE OPERATION**, producing a product admirably suited

FOR LAND FERTILIZER

ALL PARTS SUBJECT TO WEAR MADE OF MANGANESE STEEL

Mill No.	Crushing Cylinder	Size Feed	Capacity per hour	Horse Power	Speed	WEIGHT
						Portable Stationary
1	30"x24"	5"x10"	2-3 Tons	8 to 10	800 R.P.M.	6000 lbs. 5000 lbs.
2	40"x24"	10"x14"	4 to 5 Tons	15 to 18	600 R.P.M.	7500 lbs. 6500 lbs.

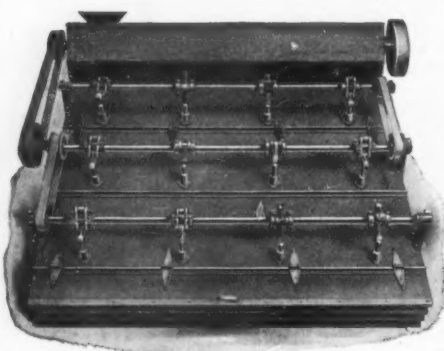
Write for Bulletin R.P.-144 for further information

THE WILLIAMS PATENT CRUSHER & PULVERIZER COMPANY

2705 N. Broadway, ST. LOUIS, MO.

268 Market St., SAN FRANCISCO, CAL.

General Sales Dept., Old Colony Bldg., CHICAGO, ILL.



STURTEVANT MACHINERY

CRUSHERS

Thirty Years of Practical Experience has taught us that no one machine is adapted to all purposes. Customers expect correctly designed machines for their special work. Our large line enables one to select properly. It consists of:

CRUSHERS—For coarse, medium and fine work on hard or soft rock. Jaw,

Rotary and Hammer design.

CRUSHING ROLLS—Coarse, medium and fine. Hard or soft rock,—wet or dry.

TRI-ROLL MILLS—For medium crushing, giving Two Roll Reductions.

RING-ROLL MILLS—For pulverizing hard materials.

EMERY MILLS and HAMMER-BAR MILLS—For pulverizing softer materials.

SCREENS—Inclined Vibrating and Rotary for fine or coarse work—wet or dry.

Sampling Crushers, Rolls, Grinders and Screens.

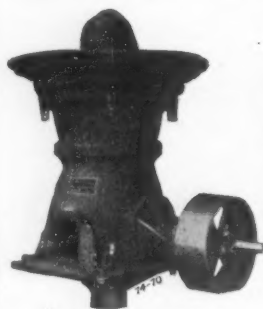
Send for Catalogue.

STURTEVANT MILL CO., BOSTON, MASS.

NEW YORK CHICAGO

DENVER PITTSBURGH

VICTORIA, B. C. LONDON ENG.



McCULLY Gyratory Crusher

has perfect suspension for main shaft, removable countershaft bearing and steel gears.

Efficient oiling devices, great strength and simple construction give a perfect rolling motion that minimizes power consumption and possibility of breakage. Described and illustrated in Bulletin PM 4-58.

Rock Crushers

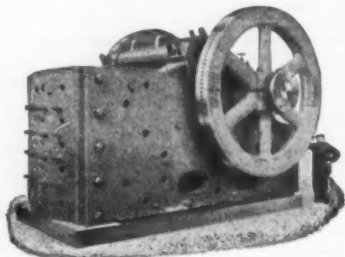
The largest crusher in the world operating on trap rock is a

SUPERIOR Jaw Crusher

Installed March, 1910, in the quarries of the Birdboro Stone Co., Birdboro, Pa. It produces 3500 to 4000 tons per day.

Built in the following Receiving Opening Sizes: 36"x24"; 42"x40"; 60"x48"; 84"x60". Described in Bulletin PM-4-58.

Write for Bulletin



Power & Mining Machinery Co.

Works: Cudahy, Wis.

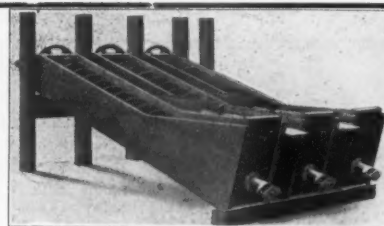
New York Office: 115 Broadway

District Offices: Chicago, El Paso, San Francisco, Atlanta.

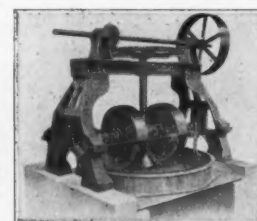
PRINCIPAL PRODUCTS

Rock Crushing Machinery, Mining and Smelting Machinery, Cement Making Machinery, Wood Impregnating Plants, Loomis Pettibone Gas Generators, Suction Gas Producers, Cyanide and General Steel Tank Works, Woodbury Jigging, Lead Burning.

M 277.2



Sand Washers



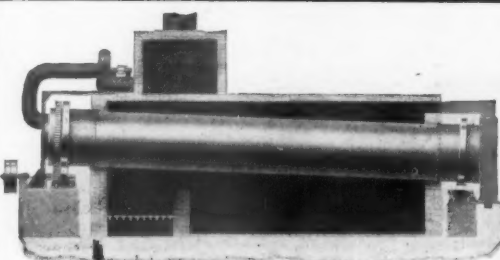
9-Foot Dry Pan

LEWISTOWN FOUNDRY & MACHINE CO.

LEWISTOWN, PA.

Builders of heavy duty crushers and glass sand machinery
Glass sand plants equipped complete

WRITE FOR PRICES AND CATALOG



We make the largest variety of

MECHANICAL DRYERS

Write for Catalog No. 16

We are also Engineers and Manufacturers of

Car Hauls
Crushers and Pulverizers
Drop Forged Chain
Elevators and Conveyors
Soft Mud Brick Machinery
Feeders
Mining Machinery
Mixing Machinery
Sand Plants
Screens

THE C. O. BARTLETT & SNOW CO., Cleveland, Ohio

Tell 'em you saw it in ROCK PRODUCTS AND BUILDING MATERIALS



AUSTIN GYRATORY CRUSHERS

Made in Eight Sizes

50 to 5000 Tons Per Day

Plans and Specifications submitted and expert advice free on any problems involving rock-crushing or earth-handling.

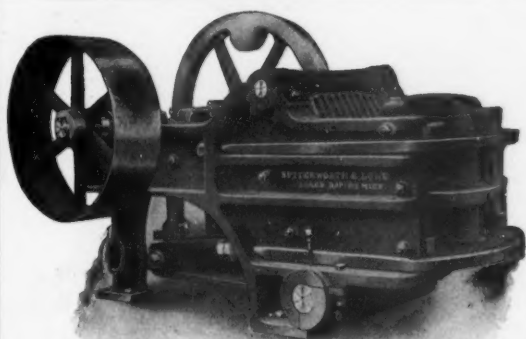
AUSTIN MANUFACTURING CO.

New York Office: 50 CHURCH STREET

CHICAGO

Canadian Agents: MUSSENS, Ltd., Montreal

We manufacture:—Road and Elevating Graders, Scarifiers, Road Rollers, Quarry Cars, Dump Wagons, Stone Spreaders, Street Cleaning Machinery.



Nippers—17 x 19", 18 x 26", 20 x 30", 24 x 36" and 26 x 42"

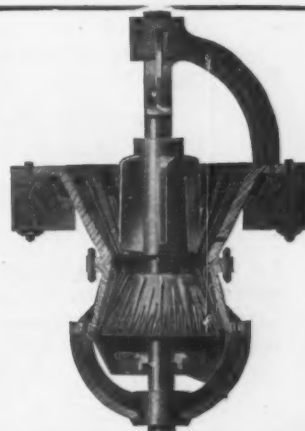
Jaw and Rotary CRUSHERS

For all Rocks and Ores Softer than Granite

GYPSUM MACHINERY—We design modern Plaster Mills and make all necessary Machinery, including Kettles, Nippers, Crackers, Buhrs, Screens, Elevators, Shafting, etc.

Special Crusher-Grinders for Lime

Butterworth & Lowe
17 Huron Street, Grand Rapids, Mich.



Crackers—6 sizes—many variations.



The Grinding is Finished in one Operation

All working parts can be removed and replaced without disturbing belts, feeder, etc.

BONNOT PULVERIZER

Grinds and Screens Limestone, Raw Lime and Hydrated Lime

Does it at One Operation. Gives You Any Desired Fineness

GRINDING LIME IS LARGELY A SCREENING PROPOSITION. THE BONNOT PULVERIZER HAS THE LARGEST SCREENING SURFACE AND CONSEQUENTLY THE GREATEST CAPACITY.

NO OTHER MACHINE LIKE IT IN THE ACCESSIBILITY OF SCREEN AND GRINDING PARTS.

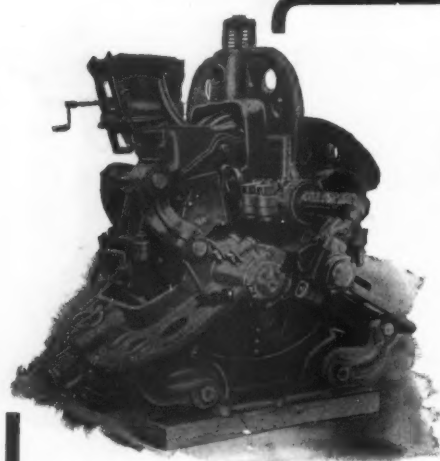
No. 4 Catalog Explains These Advantages

THE BONNOT COMPANY

909 N. Y. Life Bldg.
KANSAS CITY, MO.

CANTON, OHIO

Tell 'em you saw it in ROCK PRODUCTS AND BUILDING MATERIALS



MAXECON

Means MAXimum of ECONomy

Years of experience with the assistance of our hundreds of customers has found THE SOLUTION OF GRINDING HARD MATERIALS. The MAXECON PULVERIZER combines highest EFFICIENCY, greatest DURABILITY and assured RELIABILITY, Uses the LEAST HORSE POWER per capacity. Embodies the features of our Kent Mill with improvements that make it MAXECON.

WE DO NOT CLAIM ALL of the CREDIT for this achievement

We have enjoyed the valuable suggestions of the engineers of the Universal Portland Cement Co. (U. S. Steel Corp.), Sandusky P. C. Co., Chicago Portland C. Co., Marquette Cement Mfg. Co., Western P. C. Co., Cowham Engineering Co., Ironton P. C. Co., Alpena P. C. Co., Castalia P. C. Co., Pennsylvania P. C. Co., and many other patrons.

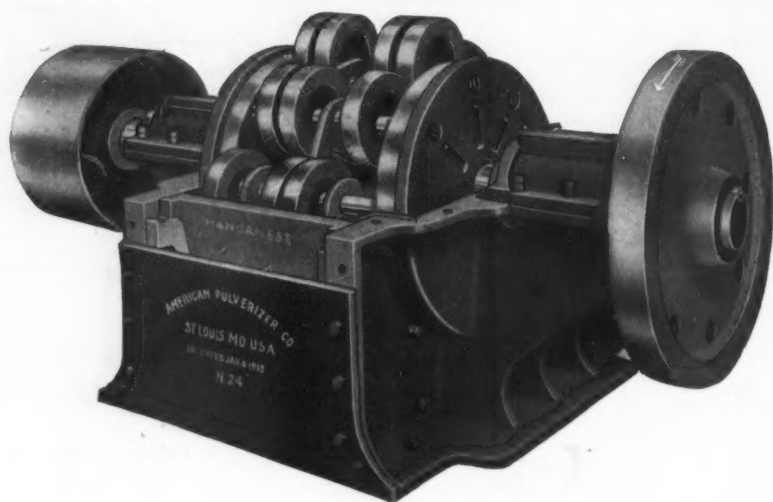
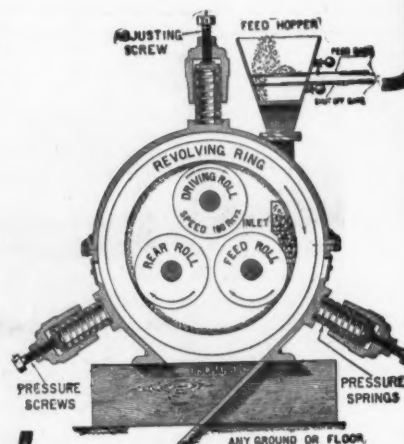
THE RING WOBBLES

The FREE WOBBLING POUNDING RING instantly and Automatically ADAPTS its position to the variations of work.

Its GRINDING ACTION is DIFFERENT than any other; besides the STRAIGHT rolling action of the rolls, the SIDE to SIDE motion of the ring makes the material subject to TWO crushing forces and DOUBLE OUTPUT results.

KENT MILL CO.

10 NAPELYEA ST., BOROUGH OF BROOKLYN, N. Y. CITY
LONDON, W. C., 31 HIGH HOLBORN
BERLIN-HOHENSCHOENHAUSEN



The American Pulverizer

equipped with rings exclusively, for pulverizing limestone or any other refractory materials.

SEE THE DISKS

as are removed from the grinding room and installed in an offset in the housing. The disks and inner housing are protected by chilled iron liners.

The following letter discloses an efficiency that excels in grinding limestone from 2½-inch cubes to meal fineness and under in one operation:

Gentlemen:—

Replying to yours, April 27th, 1915, would say our books show that we have ground over 5,000 tons of limestone with our American Ring Pulverizer and have not expended one cent for repair or replacement.

Yours very truly,

SUGAR RIVER STONE CO.

GUARANTEED—30 DAYS' TEST.

Get the best—it will prove to be the cheapest.

WRITE FOR PARTICULARS

American Pulverizer Company, East St. Louis, Illinois

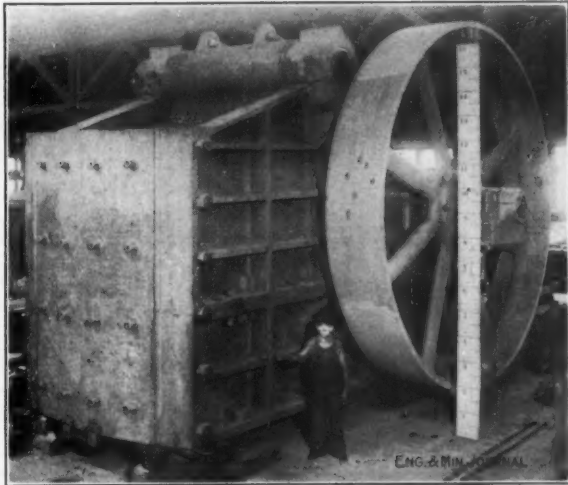
Tell 'em you saw it in ROCK PRODUCTS AND BUILDING MATERIALS

TRAYLOR TRIUMPH

*Largest Jaw Crusher
Ever Constructed*

66" x 86" JAW OPENINGS

**WATER COOLED BEARINGS
ALL STEEL FRAME**



(Over 16' High and Weighs 500,000 Lbs.)

Tremendous Capacity and Range

JUST completed in the Traylor shops is a jaw crusher which will be used for the destruction of large rocks. This machine will crush all sizes that can be handled by a 6-yd. steam shovel to 8" at the rate of 500 tons per hour.

It has been demonstrated time and again that the most economical way of destroying anything is by large machines. In recent years this practice has been adopted for crushing rocks and since that time the Traylor Eng. & Mfg. Company have secured orders for 3 of the largest and most up-to-date Jaw Crushers on the market.

These crushers are up-to-date because they are the result of years of experience and careful study of our Engineering Department and embody features that make them the most improved on the market.

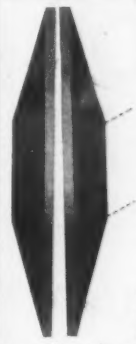
All sizes and types are fitted with Water-Cooled Pitman and Bearings; Positive Lubricating System; Large Steel Shafts; Manganese Steel Wearing Plates and massive construction of all parts subjected to severe strains.

Send for Catalogue G-2, describing Jaw Crushers

TRAYLOR ENG. & MFG. CO.
ALLENTOWN, PA.

New York Office:
24 Church St.

Salt Lake Office:
510 Newhouse Bldg.



THE DISCS OF THE SYMONS DISC CRUSHER



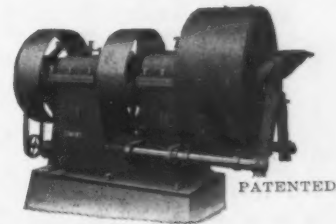
Are made of manganese steel. They revolve in the same direction at the same speed. The inner disc has a vibrating motion which produces a nipping action, doing away with the excessive abrasion found in other types of crushers.

Large Capacity — Economical — Less Power per Ton

MANUFACTURED AND SOLD ONLY BY

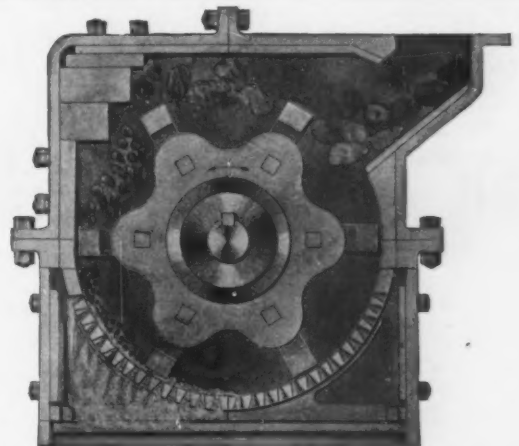
Chalmers & Williams

1450 Arnold St., Chicago Heights, Ill.



PATENTED

EVENTUALLY—SYMONS DISCS



K-B PULVERIZER ALL STEEL

*Manganese Steel Linings, Adjustable Hammers,
Readily Removable Screens*

Large Capacity
Low Power

Economical
Efficient

Designed for Service and Durability

Write for Bulletin Today

K-B Pulverizer Company, Inc.

86 Worth St., New York City

Tell 'em you saw it in ROCK PRODUCTS AND BUILDING MATERIALS

BANNER HYDRATE LIME

*Carries more sand for Mason Work,
than any other lime on the market*

FOR INFORMATION APPLY TO THE

NATIONAL MORTAR & SUPPLY COMPANY

A. H. Lauman, President

PITTSBURGH, PA.



**IF IT IS
LIME
WE MAKE IT**
(STRONGEST IN OHIO)

BULK and Barreled --- "MASON'S HYDRATE"—For Brick-work, plastering and masonry. --- "LIME FLOUR"—Hydrated Finishing Lime—Best on the market. --- "CLOVER GROWER"—Land restorer, for the farmer—none better. --- "CARBO HYDRATE"—Soil sweetener—crop producer. --- Prompt shipments. --- A dealer wanted in every town. --- WRITE OR PHONE FOR PRICES.

The Scioto Lime and Stone Co.
Delaware, Ohio

"Lion Brand" and "Cream of Lime"

Hydrate

Used in the construction of
this building.

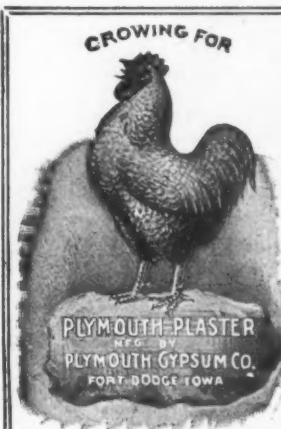
There is a good reason for
specifying these brands for
sky scrapers.

**Quality
Is Required**

If the best is
wanted order these
brands from The
Ohio & Western
Lime Company,
office at Hunting-
ton, Indiana.



First National Bank, Pittsburgh, Pa.



**PLYMOUTH PLASTER
WOOD FIBER PLASTER
PLYMOUTH FIREPROOF
PARTITION BLOCKS
SACKETT PLASTIC BOARD
STEEL STUDDING**

THE QUALITY BRANDS

WRITE US FOR PRICES AND
ADVERTISING MATTER

Plymouth Gypsum Co.
Fort Dodge, Iowa

Red, Brown, Buff and Black



**MORTAR
COLORS**

The Strongest and
Most Economical
in the Market.



Our Metallic Paints and Mortar Colors are unsurpassed in
strength, fineness, and body, durability, covering power and
permanency of color. Write for samples and quotations.

CHATTANOOGA PAINT CO.

Chattanooga, Tennessee

Tell 'em you saw it in ROCK PRODUCTS AND BUILDING MATERIALS



*"Tiger Brand
Sells itself"*



Black Hawk Hotel,
Davenport, Ia.

Tiger Brand White Rock Finish (Hydrated Lime) has a national reputation for white coat work.

The architects specify it, the contractors like it and the business naturally goes to the dealer who handles it.

Here is one of the finest little hotels in the West—and it was a Tiger Brand dealer who sold the lime to plaster it.

The Kelley Island Lime & Transport Company
Cleveland, O.



This is what you want in Hydrated Lime, Mr. Dealer

Lime that is perfectly slaked, of extreme fineness, that is positively guaranteed not to "pop."

Monarch Hydrated Lime is of absolute uniformity, no underburned or overburned lime to be eliminated.

It's a pleasure to dealers to recommend this well known Brand. It means more business, more calls for Monarch Brand, More Profits for you.

Monarch publicity service is a new aid to you in selling and creating a call for Monarch Hydrated Lime. Be a Monarch Man. Write us today.

National Lime & Stone Co.
CAREY, OHIO

"If a man expects to succeed in the lime business and he puts a hydrate on the market, it is only good business for him to put the best hydrate in his branded bag that he can possibly manufacture."

—Rock Products, May 22, 1915.

Mitchell Hydrated Lime

is made under the supervision of a chemist who analyzes the product at frequent intervals during the day to insure a uniform high grade material.

Mitchell Hydrated Lime

in concrete, insures greater strength and lasting qualities. It reduces the possibility of segregation to a minimum. It makes a fat, viscous mortar that adheres to each piece of the coarser aggregate, insuring a uniform impermeable mass. This adds strength to the concrete and gives it the density that makes it waterproof.

MITCHELL LIME CO.
Mitchell Indiana

Largest Gravel Washing Plant in the World



Akron Gravel & Sand Company, Akron, Ohio

This plant is the largest of its kind ever built and fully demonstrates our ability as engineers and the efficiency of Dull Gravel Washing Equipment. It is one more of the numerous plants we have equipped throughout the country, which are daily proving our success in solving the various problems of washing sand and gravel.

If you expect to install a new plant or to make additions to your present equipment, we can handle the proposition to your entire satisfaction.

We also manufacture Cableway Excavator Buckets—Portable Gravel Washers—Conveyors—Small Washing and Screening Outfits, etc.

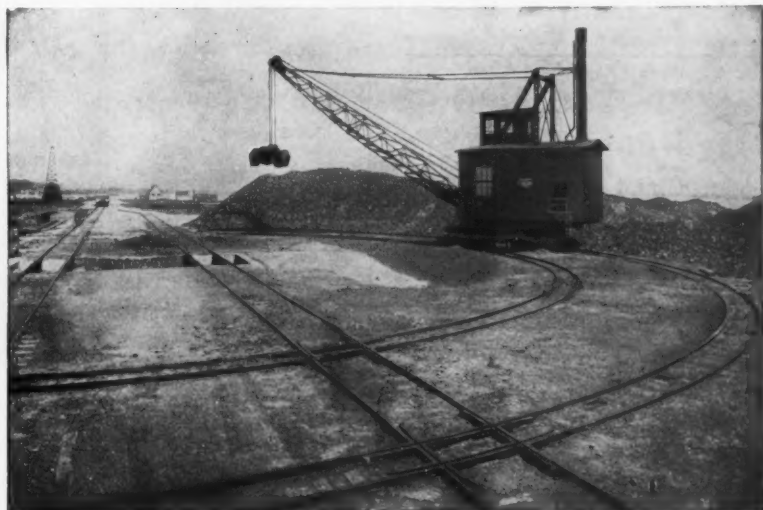
Write for catalog just issued---"Plants for Washing Sand and Gravel"

THE RAYMOND W. DULL COMPANY

1912 Conway Building, Chicago, Illinois

Tell 'em you saw it in ROCK PRODUCTS AND BUILDING MATERIALS

Here's How to Store Your Stone and Gravel economically, with a low first cost sytem----



The Circular Storage System Crane in operation.

THE LINK-BELT "Circular Storage System" (Patented)

which consists of a long radius locomotive crane, equipped with and operating a self-filling grab bucket traveling on curved tracks around a central point from where the bucket receives its load.

This system has earned the reputation of being the "most economical method of storing and reclaiming large bodies of loose materials," such as coal, stone, limestone, gravel, etc. No other system can compare with it for this work—it is low in first cost and in operating cost.

It has proved to be especially economical for storage capacities above 5000 tons. We have built these cranes with booms having a radius up to 110 feet, handling 5-cubic-yard buckets, and have obtained handling capacities as high as 240 tons per hour. Our cranes are operated by either steam or electric power.

We make no charge for advice, layouts or estimates, and invite correspondence and investigation. Address nearest office.

LINK-BELT COMPANY, PHILADELPHIA CHICAGO INDIANAPOLIS

New York.....290 Broadway
Pittsburgh.....1501 Park Building
Boston.....49 Federal St.
St. Louis.....Central Nat'l Bank Bldg.
Buffalo.....698 Ellicott Square

Wilkes-Barre.....2d Nat'l Bank Bldg.
Detroit.....911 Dime Bank Bldg.
Cleveland.....1304 Rockefeller Bldg.
Seattle.....580 1st Ave. South
Los Angeles.....204 N. Los Angeles St.

Denver.....Lindrooth, Shubart & Co.
Minneapolis.....Link-Belt Supply Co.
New Orleans.....Whitney Supply Co.
Knoxville.....D. T. Blakey
San Francisco.....N. D. Phelps, Sheldon Bldg.

Birmingham.....General Machinery Co.
Portland, Ore.....14th and Lovejoy Sts.
Brantford, Can.....Waterous Eng. Works Co.
Toronto, Can.....Can. Link-Belt Co., Ltd.

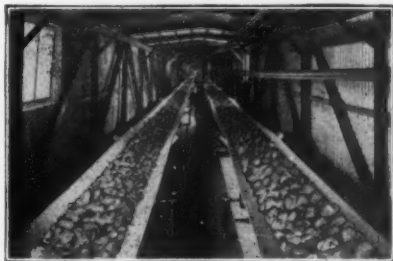
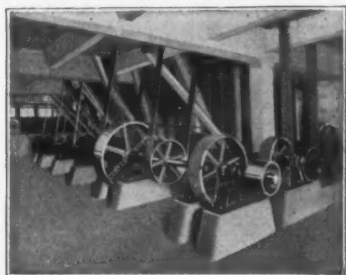
It makes no difference

whether you want to screen your material, elevate, store or convey it, or transmit power to various units. When you want any such equipment there is just one place to send your orders and more Stone and Gravel Producers are finding it out every day.

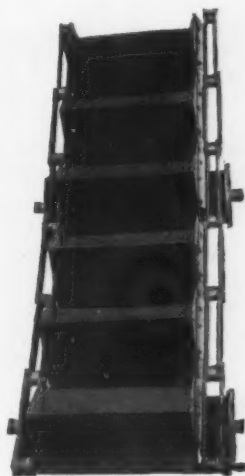
They may be fooled once in a while, but when they keep sending repeat orders time after time, it proves that you are treating them right.

SPECIFY WELLER-MADE INSIST ON

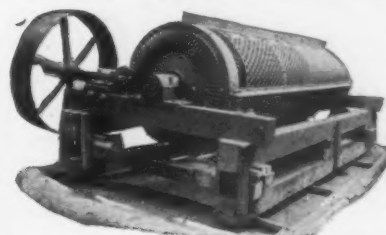
Complete
Power
Transmission
Equipments
of all kinds.



Belt
Conveyors
for any
material.
10" to 60"
wide.

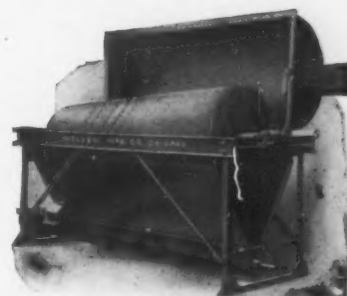


Heavy Bucket Elevators up to 84" wide and 36" pitch.



Revolving
Screens
of every
type for
every
purpose.

Special
enclosed
Screens for
dusty or fine
materials.



WELLER MFG. CO.

Send for General Catalog P. 20

CHICAGO

Tell 'em you saw it in ROCK PRODUCTS AND BUILDING MATERIALS

HYDRATED LIME

Its Marvelous Increase In Consumption

The Kritzer Service

Any lime can be successfully hydrated by our process; but whether your lime can be hydrated and successfully marketed is another question. We study your proposition and the possibilities of its commercial success, and advise you accordingly. Our ten years' experience in the business is a valuable assistance in this. Ours is not a mail order proposition. We investigate our customers' proposed plant thoroughly before we will enter into a contract with them. We turn down more prospects than we advise to go into the business. We can't afford to have any failures. Our customers' success is our success.

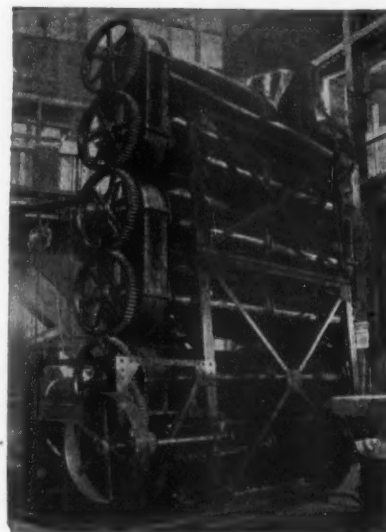
WRITE TO US

Are You Meeting the Increasing Demand for Hydrated Lime?

There is nothing forced or unnatural about the growing popularity of this product. It is a natural growth resulting from a widespread awakening to the advantages of Hydrated Lime for a variety of uses—as waterproofing for Concrete, in wall plaster, and in almost every case where lime is called for. In hydrated form it is weatherproof, more easily handled, and better adapted to modern methods, both of commerce and construction. A continued growth of the demand may therefore be expected.

The Kritzer Way

insures a product which will hold a continued place for itself on the market. We install plants complete, designed by our own expert engineers to meet your local conditions and turn out a uniform grade of Hydrated Lime of the highest standard, and with the greatest economy in cost of production. The Kritzer Continuous Hydrator, and the accessories installed with it, are the recognized standards in this line.



KRITZER CONTINUOUS
PROCESS

THE KRITZER COMPANY Chicago, Ill.

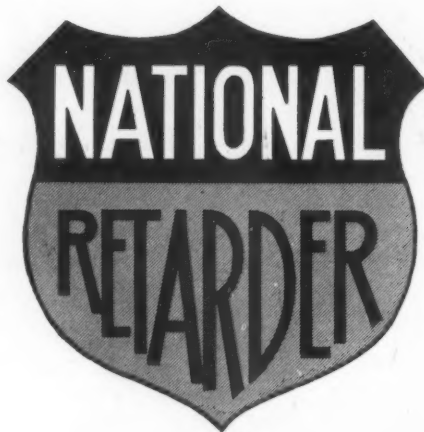
Our Motto for Years Has Been---

Quality and Service

Send Your Orders on That Basis

PRICE ALWAYS RIGHT

Eastern Plant
PORT CLINTON
OHIO



Western Plant
WEBSTER CITY
IOWA

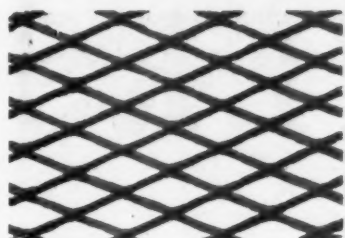
THE NATIONAL RETARDER COMPANY

930 North Halsted Street, CHICAGO, ILL.

Tell 'em you saw it in ROCK PRODUCTS AND BUILDING MATERIALS

THE "BOSTWICK" LINE OF BUILDING METAL GOODS

Is Inclusive—"From the Walls to the Trim"—



Expanded Metal: "Bostwick" Diamond A Expanded Metal has every advantage claimed for any make of metal lath of this type, and in addition gives more weight, a stiffer reinforcement. "Diamond A" No. 24 weighs 4 lbs. per square yard. Good as the best expanded metal, but in our judgment, not equal in all-around efficiency to "Bostwick Truss-Loop."

Get a Line on "Bostwick Dealers Service"

THE BOSTWICK STEEL LATH CO., Niles, Ohio

REMEMBER!

If you load any rock products
into box cars,

a

Long Reach **MANIERRE** Loader
means less breakage

MANIERRE ENGINEERING & MACHINERY CO.

Bulletin 513 tells more
Write for it

Milwaukee

Wisconsin

THE LEADER IS THE NEGLEY
DRAGLINE SLACK CABLEWAY EXCAVATOR
FOR ALL OPERATIONS

DISCHARGES FAST OR SLOW AS DESIRED
AT THE MAST OR ANCHOR

INVESTIGATE THE SUPERIOR VIRTUES
BEFORE BUYING

IN OPERATION & MAINTENANCE COST
IT IS THE MOST ECONOMICAL

Indianapolis Cable Excavator Co. INDIANAPOLIS, IND.
Beauty Av. & New York St.

LELAND EQUIPMENT CO., San Francisco, Cal.
CHAS. T. TOPPING MACHINERY CO., Pittsburgh, Pa.
H. K. ROBINSON, St. Louis, Mo. W. A. BROWNING, Dallas, Tex.
LECHY & COLLIS, Ltd. Montreal Toronto Napanee
WESTERN SUPPLY & EQUIPMENT CO., Ltd.
Edmonton Calgary Lethbridge

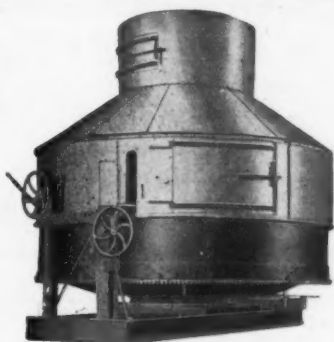
Dragline Cableway Excavators
SHEARER & MAYER & SAUERMAN PATENTS

Dig, convey, elevate and dump
in one continuous operation,
from wet or dry pit, to bins,
screens, cars, or storage piles.
Operated with a double drum
friction hoist. Buckets are
designed to dump at either end
of track cable and are under
positive control of one operator.



Write us your condi-
tions and requirements
and we will advise you
if our equipment is
adaptable.

Sauerman Brothers, Engineers
1140 Monadnock Block CHICAGO, ILLINOIS



Clyde Hydrator with Hood
"The common sense way"

SIMPLICITY IS THE KEYNOTE OF SUCCESS

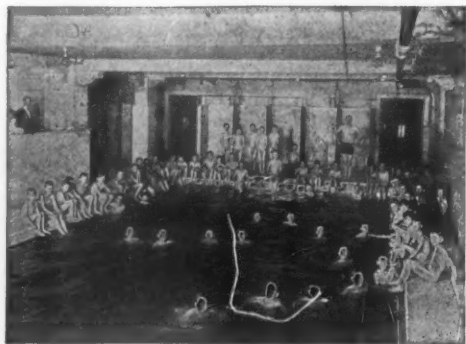
IT does not take a "master mind" to install a CLYDE Hydrating plant, nor does it take a "high priced" engineer to run one. If YOU, Mr. Lime Manufacturer, realized how simple it is to obtain a PERFECT HYDRATE, with the CLYDE HYDRATOR you would place your order with us by FIRST MAIL. Write us today—NOW, and let us explain to you what CLYDE PROCESS hydrated lime is and how to obtain the best results, then

Use your own judgment—it's up to you

H. MISCAMPBELL, Duluth, Minn.

Patentee and Sole Manufacturer

Tell 'em you saw it in ROCK PRODUCTS AND BUILDING MATERIALS



Y. M. C. A. SWIMMING POOL, WHEELING, W. VA.

MEDUSA WATERPROOFING

USED TO MAKE IT WATERPROOF

MEDUSA Waterproofing is a dry powder to be mixed with dry cement, and a trial will convince cement users that it is the only true preventive of dampness in concrete. Used extensively by U. S. Government in coast defence work, and is being shipped to all parts of the world. Absolutely insoluble and unaffected by water even after years of contact.

Write for free illustrated booklets and samples of

MEDUSA GRAY PORTLAND CEMENT
 MEDUSA WHITE PORTLAND CEMENT
 MEDUSA WATERPROOFING
 (POWDER OR PASTE)
 MEDUSA WATERPROOFED CEMENT
 (GRAY AND WHITE)

Sandusky Portland Cement Co.
 SANDUSKY, OHIO

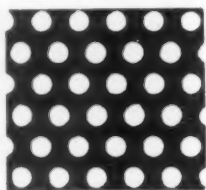


THE IMPROVED EQUIPMENT CO.

60 Wall Street, New York City

COMBUSTION ENGINEERS
 DESIGNERS AND BUILDERS OF

COMPLETE GAS PLANTS GAS BENCHES
 LIME BURNING PLANTS GAS PRODUCERS
 SPECIAL INDUSTRIAL FURNACES



"HENDRICK"
 PERFORATED STEEL SCREENS AND
 ELEVATOR BUCKETS

— STAND THE TEST —
 Let us figure on your requirements.

HENDRICK MFG. CO.
 New York Office, 30 Church St. CARBONDALE, PA.

THE FULLER ENGINEERING CO.

Designing, Constructing and Operating Engineers
 ANALYTICAL CHEMISTS

Cement, Hydrated Lime and Gypsum Plants a Specialty

OFFICES: Allentown Natl. Bank Bldg. ALLENTOWN, PA.

DIRECT HEAT DRYERS

FOR

**Bank Sand, Glass Sand,
 Rock, Clay, Coal, Etc.**

All Mineral, Animal and Vegetable Matter

We have equipped the largest plants
 in existence and our dryers are oper-
 ating in all parts of the world. Write
 for list of installations and catalogue
 — S. C. —

American Process Co.
 68 William St., NEW YORK CITY

ROBERT W. HUNT JNO. J. OONE JAS. C. HALLSTED D. W. McNAUGHER

ROBERT W. HUNT & CO., ENGINEERS
 INSPECTION CEMENT & REINFORCING STEEL
 CHEMICAL AND PHYSICAL TESTING

Chicago, Montreal New York, San Francisco Office and Laboratories
 Pittsburgh, Toronto St. Louis, Mexico City London, Seattle

**Lime Kilns
 Hydrated Lime Plants
 Portland Cement Plants**

RICHARD K. MEADE

Chemical, Mechanical and Industrial
 Engineer

202 N. Calvert Street, BALTIMORE, MD.

Cement Tests, Chemical Analyses
 Reports on Mineral Properties

F. L. SMITH & CO. 50 Church St. NEW YORK

SPECIALISTS IN

**Engineering Cement Works
 AND
 Cement Making Machinery**

REPORTS

Stone Crushing
 Plants

DESIGNS

Quarry Operations

ERECTION

Sand and Gravel
 Plants

PRESTON K. YATES, Consulting Engineer
 120 BROADWAY, NEW YORK CITY

SHELDON S. YATES
 Associate

Tell 'em you saw it in ROCK PRODUCTS AND BUILDING MATERIALS

Rock Products and BUILDING MATERIALS

INCORPORATING DEALERS BUILDING MATERIAL RECORD

Volume XVI.

CHICAGO, JULY 22, 1915.

Number 6.

PUBLISHED SEMI-MONTHLY.

DEVOTED TO

Quarry Products, Cement, Lime, Plaster, Sand and Gravel, Clay Products and Building Specialties—Fireproof Building and Road Construction.

THE FRANCIS PUBLISHING COMPANY.

EDGAR H. DEFEBEAUGH, Pres.

Seventh Floor, Ellsworth Bldg., 537 So. Dearborn St., Chicago, Ill., U. S. A.
Telephone: Harrison 8086, 8087 and 8088.

EDITORS:

EDGAR H. DEFEBEAUGH. FRED K. IRVINE.

GEORGE A. OLSEN, Editor Retailers' Section. F. G. PULLEY, Associate Editor.
H. F. AKE, Secretary.
DRUSUS H. NICHOLS, Advertising Manager.

Communications on subjects of interest to any branch of the industry are solicited and will be paid for if available.
Every reader is invited to make the office of Rock Products and Building Materials his headquarters while in Chicago.
Editorial and advertising copy should reach this office at least five days preceding publication date.

TERMS OF ANNUAL SUBSCRIPTION.

In the United States and Possessions.....\$1.00
In all other Countries in the Postal Union.....\$1.50
Subscriptions are payable in advance, and in default of written orders to the contrary, are continued at our option.
Advertising rates furnished on application.

Published on the 7th and 22nd of each month.
Entered as second-class matter July 2nd, 1907, at the Postoffice at Chicago, Illinois, under act of March 3rd, 1879.
Copyright, 1915, by E. H. Defebaugh.

Settle the Labor Unrest.

Lawlessness in connection with labor disputes are preposterous and inexcusable in a country like ours, founded upon the principles of justice and equality for all citizens alike. The acts of vandalism at Bayonne, in which 5,000 strikers seem to be collectively and individually responsible for attempts to destroy the properties of one of the largest industrial corporations, shows that right in the heart of the principal industrial district there exists the seeds of barbaric opposition to order, and the rules of lawful good behavior.

When this kind of trouble showed itself in Northern Michigan and later in the rough mountainous regions of Colorado the excuse was volunteered that living conditions at the works or at the mines were such as to shorten the term of usefulness of the workers and to suggest that for such reasons they were entitled to higher pay, enough even to provide them with a competency for the balance of their lives in a very few years. There were plentiful suggestions of such a nature made so as to influence the trend of public opinion in favor of the strikers at the time of the riots. But nothing of the kind was brought out or made an important point of issue in any of the investigations that were brought before the courts. The natural inference is that the suggestions were made for a purpose, not founded on truth, nor capable of being presented before a deliberate tribunal.

The fire-bugs at Bayonne cannot attempt to create any false impression with regard to their living conditions, for right in the midst of the metropolitan district they have every advantage and comfort known to modern civilization. Their right to strike or to refuse to work has been pretty well established, but when they go so far as to publicly announce that they will not work themselves nor allow others to take up the work which they have refused without wholesale bloodshed it is high time that a properly constituted authority take

the matter in hand and dispose of it with such a use of force as is necessary to settle the matter completely and permanently.

Probably there is not a manufacturer or employer of labor in this land who would not be willing to assist with all his means and energy to bring about permanent industrial peace, because it is the one thing needed more than anything else to put business upon a sound and safe basis.

It will do no particular good for the Governor of New Jersey to call out a regiment, two regiments, or the entire state militia to disperse the rioters at Bayonne and restore order at the point of the bayonet. Then a few weeks later the courts of the state will review the cases in generalizing terms, and on account of the large number of offenders calmly admonish them with polished rhetoric expressed in eloquent words, not one of which is understood, as the culprits are dismissed from the consequences of high crimes and grave misdemeanors. Just one hundred percent of the offenders believe that the court has decided against the Governor for calling out the troops, and in their favor since no punishment is forthcoming. The military represents one kind of power to this class of people and the courts another. They understand the military much better than they do the courts, but they have very little respect for either, because it appears to them that these two expressions of the power of organized society disagree with one another. So long as this disagreement exists their deduction is that they are free to repeat acts of organized lawlessness without serious consequences whenever they are of mind to kick up dissension. This is clearly not the way to set about the permanent solution of the labor unrest proposition of the United States.

Again, it is of little real use for the courts to bundle up a bunch of rioters and send them to the state penitentiary, for those penal institutions have in recent years grown step by step into a kind of rest resort, with every comfort and recreation provided, and only a little light work thrown in, sufficient to provide good digestion and healthful sleep. A substantial fine imposed by the courts to be collected out of their wages would be a much better understood and a more far reaching cure than any other punishment that could be put upon this kind of people as a penalty to society for their misdemeanors. While such a punishment would have its effect upon the families dependent upon the men so punished, it would clearly be their fault for getting into such a fix. It would not take very long for a well settled opinion to be formed in the minds of those dependent upon the men so punished so that their influence would be thrown upon the side of right and order.

The laboring classes are dissatisfied, but do not know what it is they want. They think they want higher wages, but they do not know how to properly use the money they now get. They are discontented with themselves and imagine that they are discontented with their employer. It looks very much as if our experiment of running a country without classes has come very near making a failure.

The national department of commerce and labor will eventually have to be endowed with the authority and power to peremptorily settle labor disputes as the first essential step in the direction of providing American business and industry with a peaceful, profitable and altogether delectable condition for all concerned.

WITH YOU and ME

N. H. Bragg & Son, of Bangor, Me., are carrying a line of building materials, metal lath, etc., in connection with their retail hardware business.

J. E. Winesboro has been elected superintendent of the Thornton Fire Clay Co., at Thornton, Ohio, to succeed James S. McCann, who resigned lately.

Miss Vinick, formerly in charge of the country sales and credit departments of the Kansas City Sand Co., Kansas City, Mo., recently resigned from the company.

Allen H. Carter, vice-president and general manager of the Union Cement & Lime Co., Louisville, Ky., expects to leave in a few days on his annual vacation trip to the North.

Clyde Rice, of Harlan, Ky., has assumed the general managership of the newly organized Rice Lumber Co., of Pineville, Ky., which will handle a general line of builders' supplies.

Among the recent visitors to Chicago were Fred Paulson, traffic manager of the Lehigh Portland Cement Co., Allentown, Pa., and A. H. Craney, Jr., vice-president and general sales agent of the Union Sand and Material Co., St. Louis, Mo.

A change has occurred in the house of Dobbs, Frazer & Henderson, New York City, the last named partner having made connections with the Kenwell Construction Co., of that city, which does a great deal of work for the New York Edison Co.

J. B. Evans, formerly engineer of sales installations for the General Railway Signal Co. of Canada, Ltd., Montreal, has become connected with the National Concrete Machinery Co., of Madison, Wis., and has been made general manager of the concern.

G. S. Bowstead has resigned his position as salesman for the Meacham & Wright Brick Co., Chicago, in order to enter the real estate business. R. G. Stevens is a recent addition to the sales force. J. J. Lyons, vice-president of the company, left on July 21 for face brick plants in Western Pennsylvania.

Pittsburgh is much interested in the proposed new home rule building code. Councilman Robert Garland is chairman of the councilmanic committee and the other members are W. Y. English and Dr. S. S. Woodburn. The work of the committee will be a hard one, for Pittsburgh building regulations are now in very bad shape.

A boat excursion on the steamer Sunshine will be given by the Pittsburgh, Pa., Builders' Exchange on Monday, July 26, from 8:00 to 11:00. Dancing and other amusements will be participated in and supper will be served on the boat. The trip takes the form of an annual summer outing which is given by the exchange each year.

Thomas A. Edison, the inventive genius and enthusiastic booster of the use of Portland cement and reinforced concrete, has been appointed chairman of the new naval board of invention and development by Secretary of the Navy Daniels. As a result of the organization of this board, it is believed that the submarine, air-devices and other means of naval defences will be greatly improved.

Announcement was recently made of the approaching marriage of Charles Newman, of the Newman Sand Co., of Louisville, Ky., to Miss Jessie Thomas, of Louisville. Mr. Newman is senior partner in the firm, which jobs sand and gravel. The wedding will take place some time in September.

Paul M. Justice, of Lexington, Ky., is a charter member of the recently organized Lexington Rotary Club, in which he will represent the building supply interests. The club was formed by the Louisville Rotary Club and Fred G. Burdorf, of Louisville, was one of the Louisville men present at the forming of the Lexington organization, the members of which have been invited to come to Louisville as guests of the Louisville club.

An event of great importance in Western Canada is the fact that one of the largest industrial mergers of recent times has just been closed in Alberta, with the merging of the Western Foundry and Metal Co., Limited, and the Canadian Equipment and Supply Co., Limited, both of Calgary, and the International Supply Co., Limited, of Medicine Hat, into the Canadian Western Foundry and Supply Co., Limited, capitalized at \$1,000,000, with head offices at Calgary.

The Salmen Brick & Lumber Co., with offices in the Whitney-Central Bank building, New Orleans, La., and brick and lumber plants at Slidell, La., has commenced the shipment of lumber and brick from Slidell, La., to Alexandria, La. The first boat to be loaded out was a self-propelling barge secured from the Alabama & New Orleans Transportation Co., and besides lumber carried 20 carloads of hollow tile and brick. The shipment was a decided success and reports indicate this type of barges will be used largely in future shipments from New Orleans territory to Red river points.

Scheduled Meetings.

July 22-24—Ohio Builders' Supply Association, annual summer meeting and outing, Cedar Point, Ohio.

Aug. 21—New York State Builders' Supply Association, summer outing, Manitou Beach, near Rochester, N. Y.

Sept. 13—Tri-State Roads Association, third annual convention, San Francisco, Cal. (Meeting to be merged with the Pan-American Road Congress.)

Sept. 13-17—American Road Builders' Association, American Highway Association, Pan-American Road Congress, Oakland, Cal.

Oct. 4-7—Northwestern Road Congress, annual meeting, Cedar Rapids, Ia.

Oct. 11-15—National Paving Brick Manufacturers' Association, annual convention, Dayton, Ohio.

Feb. 12-19, 1916—Ninth Chicago Cement Show, Coliseum and Armory, Chicago, Ill. Cement Products Exhibition Co., Robert F. Hall, 208 South La Salle street, Chicago, secretary.

Feb. 15-18, 1916—Second National Conference on Concrete Road Building, Auditorium hotel, Chicago, Ill. J. P. Beck, 208 South La Salle street, Chicago, secretary.

"Bud" Rader and Morris Metcalf, who are affiliated with E. M. Hagar in the new Hagar Portland Cement Co., were members of the Onwentsia club polo team, which partook of the contests held in Chicago on July 9 and 10. In the first game, Mr. Rader injured his ankle, but expects to be in condition to enter local games in the near future.

In addition to the splendid record they are making as building material merchants, the Jahnecke brothers, of New Orleans, are becoming prominent as believers in life insurance. Ernest Lee Jahnecke, who is president of the Jahnecke Navigation Co., the large gravel and dredging concern of New Orleans, and who is vice-president of the Canal Bank, commodore of the Southern Yacht Club and also has the distinction of being the "King" of the New Orleans carnival of 1915, is insured in one company for \$100,000. Paul F. Jahnecke, vice-president of the navigation company, is insured for \$45,000 in the same company, and Walter F. Jahnecke, secretary and treasurer of the company, carries \$42,000 with the same concern. It is the same progressive spirit which has made them prominent among the building material fraternity of the United States that has led them to see the advisability of securing their protection and after thorough investigation placing their confidence in one company to the extent of \$187,000.

Fred W. Upham, president of the Consumers Co., Chicago, is chairman of the general committee representing the republican and democratic organizations and the Chicago Association of Commerce, named to provide means for entertaining both republican and democratic national conventions next year. "We are not sure yet that both conventions will come to Chicago, but we have hopes," said Mr. Upham. "We know that the republican convention will be held here, but other cities are making a strong bid for the democratic convention and we may have to go some to get it." In addition to retailing in builders' supplies, the Consumers Co. has a tremendous ice business in Chicago. As in previous years, Mr. Upham has issued free ice certificates to be distributed among the needy families of Chicago, so that the extremely hot weather of summer will have as little effect as possible upon the poor. The free ice is being distributed particularly for the benefit of the poor and sick babies.

J. F. Benton, star salesman of the Kent Mill Co., of 10 Rapelyea street, Brooklyn, N. Y., has been confined to the Wesley Memorial hospital, Chicago, for a number of weeks as the result of an accident which overtook him in Pennsylvania several months ago. He had the misfortune to have a heavy piece of machinery fall on his foot, which later necessitated the amputation of one of his toes. When interviewed, Mr. Benton was very optimistic regarding the present business outlook. His institution has recently sold six of its large and latest "Maxecon" mills to a large Eastern cement company. This company has also recently installed one of the latest mills for handling cement in the Lehigh valley, which has already established a remarkable record. Mr. Benton has within the past week left the hospital and is now visiting relatives in the Central West, where he hopes to place himself in the proper physical condition to be on the job by Aug. 1. He is naturally becoming somewhat impatient at being denied the privilege of landing orders for the justly celebrated "Maxecon" mills.

Prosperity on the Way.

Increasing activities are reflected in larger settlements through the banks and business as a whole shows change for the better, according to R. G. Dun & Co., financial experts. Iron and steel production is now close to full capacity and at the highest volume in two years. There is large reemployment of labor, together with rising payrolls and the settlement of strikes in the building and heavy construction industries. The expansion of operations at furnaces and rolling mills is to be augmented in the near future and other outputs in the common industries are rising, especially hardware, machinery, electric and brass lines.

Bradstreet's mercantile agency's report also predicts prosperous conditions for the near future. In part, this report says:

Factors making for expansion multiply. Evidence is provided by such facts in considerable improvement in industrial matters, virtually full movements in finished steel, overtime work in numerous war order lines, smart activity at shipyards, freer distribution of seasonable goods, somewhat fairer skies aiding crops, bounteous yields of foodstuffs, better collections, growing scarcity of labor, slightly larger sales of steam coal, absence of strain in money matters at the crop moving season, increased construction of plants to take care of war orders, and some western agricultural implement makers resuming operations, whereas a while ago it seemed as if work would not be started before September.

There is a notable absence of talk of shutdowns due to necessity for repairs or for vacation purposes. Irregular improvement in railway freight tonnage, accompanied by a uniformly heavy movement of passenger traffic is reported. Commercial paper sells freely in the West, but demand for money is not remarkable, and consequently the general supply of commercial paper is not large, while low rates rule.

Reports from the dry goods industry state that there are many merchants in the market for supplies and that about the same volume of goods is being sold as last year at this time.

B. W. Snow, who recently completed a trip through Illinois, Iowa, South Dakota, Nebraska and Kansas, states that America is entering an era of great prosperity as the result of crop conditions. Mr. Snow said:

It is now certain the farmer will be favored with large crops and foreign conditions are such that they will bring him relatively high prices, which will mean an increased purchasing power.

As compared with a year ago at this time, when crops began to move, the prices of staple crops on the farm are 25 per cent to 40 per cent higher, due to foreign demand for foodstuffs. Last year we exported 340,000,000 bushels, which broke all previous records. This year we will probably export 400,000,000 bushels.

George M. Reynolds, president of the Continental and Commercial National Bank of Chicago, returned from New York last week with news of improving business and financial prospects. He said:

I found a considerably improved feeling among New York bankers. While money is easy, they expect a better demand within the next three months as the result of crop moving and such impetus to business as has been given by the large volume of war orders. In the matter of foreign orders, the buying has been considerably concentrated in the hands of J. P. Morgan & Co., resulting in less competition among bidders and lower prices for the merchandise, whatever its character, purchased.

Reports from the shipping industry also indicate that a wave of prosperity is on the way, if not already here. In the State of Maine the great five and six-masted schooners have come into a sudden importance that has filled old shipmasters and agents with high hope. They are said to be making money "hand over fist" just at present.

The BUILDERS' POET

The Office Creed.

I.

Some people think a grin and smile
Too good for every day,
They wear them Sundays just for style
Then fold them safe away.
That fellow in the office there,
You know the one I mean,
His sombre, shadowed brow of care
Is carried to be seen,
And dynamite would not suffice
To crack his classic face of ice.

II.

He's not an isolated case,
For many men believe
An office smile is out of place,
For business makes them grieve.
They see the orders getting slim,

Collections getting slow,
They face a future dark and grim
With bankruptcy in tow.
Such people should be spoken to
With firmness and a kick or two.

III.

If I could write an office creed,
I'd print it on a card,
Condense it some and make it read,
"Don't take life so damned hard!"
When customers are hard to find,
And prospects mighty few,
A smile will ease the daily grind
And friends will stick like glue.
Dear brethren, let us rise and sing
When times are hard, the smile's the thing.

—Frank Adams Mitchell.

War Talk.

I ambled into Jimpson's store, to buy three shoes, and maybe more. I was an optimist that day; I felt like two roan colts in May, and life seemed gorgeous and serene; the world held nothing punk or mean.

But Jimpson, as he wrapped the shoes, began with venom to abuse a certain king, who's now at war—a monarch I've been rooting for. "That tin horn king," old Jimpson said, "should seek the creek and soak his head. He is to blame for war alone; if he'd sat quiet on his throne, and canned all talk about the sword, we would not be by carnage bored. I'd like to dent his head with bricks, or hand that king a few swift kicks."

"See here," I cried, "You cheap old skate! You ought to get your head on straight! The king you mention is my friend, and I'll stay by him to the end. The other kings kicked up the row that's jarring all the nations now, and if you hand me any more, I'll with your person mop the floor."

Then in his anger Jimpson rose and soaked me roundly on the nose; I on his shoulders tried to camp, and smote him in the starboard lamp, and promenaded on his frame until my feet and legs were lame.

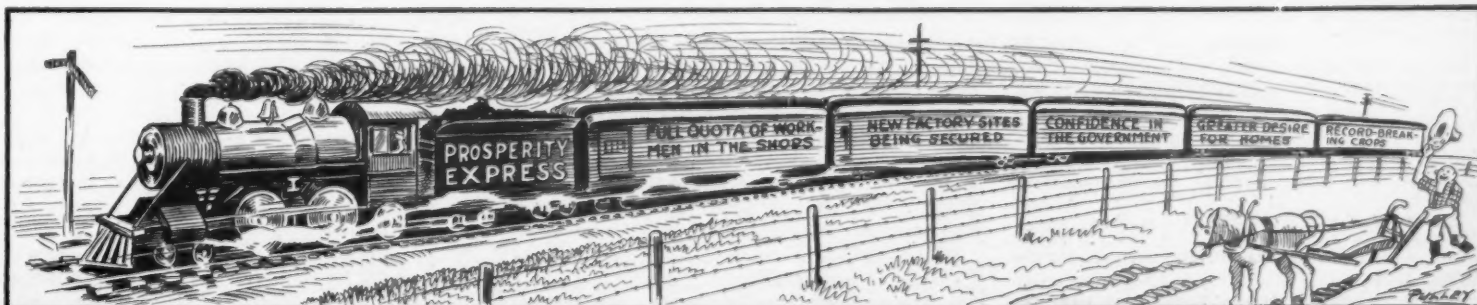
Eight peelers labored, heart to heart, to pull the two of us apart.

Next morning Jimpson came around, and sat with me upon the ground, and talked for nearly half a day. "Such doings," said he, "do not pay. You see me wrapped in linen now, with twisted nose and busted brow, and all because I roasted kings; I should be boosting other things. I should be talking Balmy Peace, which always was as slick as grease. There's noise enough on Europe's shores; at home we do not need to roar, or pass harsh judgment, which offends our customers and truest friends. Hereafter, when I've time to spare, I won't make patrons claw my hair; in my old rocking chair I'll lean, and read some helpful magazine, which tells me how to run my place, so folks will gladly seek my face."

Now there was sense in what he said; I rubbed some salve upon his head, and told him he was still my friend, and still with him some coin I'd spend; and you should profit by his fix, and cease this thing of heaving bricks, at kings on this or t'other throne, who have some troubles of their own. Some cheerful tales of kindness tell; Cement Dealer 'twill pay you well.

—Walt Mason.

It's On Its Way.



The RETAILER

The Value of the Testing of Materials

BY H. H. MORGAN.*

(Continued from July 7th Issue.)

Sand, Gravel and Crushed Stone As Aggregate.

Concrete is made up of large and fine aggregates mixed with cement and water in varying proportions. For good concrete it is not only necessary to secure a fit cement, but it is of the greatest importance that some action be taken to insure a proper selection and proportion of the rock or large aggregate, and sand, or fine aggregate. There is no question but what the proper choice of materials and proportions are fundamental in securing a dense and strong concrete. With this in mind I take pleasure in describing some of the tests and making some suggestions which are pertinent to this matter.

In the first place it is usual to distinguish the larger aggregate from the finer with the one-quarter-inch sieve; all materials retained on this sieve are called the large aggregate, that passing, the fine. This is a very important consideration. There are so many instances where a contractor will have in mind using a proportion of one part cement and two parts of sand to four parts of stone, and the particles of the stone or coarse aggregate are so fine that instead of getting a 1:2:4, he gets a 1:3:3 or even a 1:4:2 mixture.

The strength of the concrete is the strength of the cement mortar and instead of a cement mortar of the one to two proportion, he has a cement mortar of one to three or even one to four. This difficulty is perhaps more often found in the use of pit-run gravel where a user will take a proportion of one part cement to six or seven parts of the gravel and will have in some cases a mortar as weak as a one to four or even one to five.

With this matter of the distinction or separation of the large and fine aggregate, it is important to consider the tests of the coarse and fine aggregate.

Crushed Rock, Gravel or Other Large Aggregate.

The coarse aggregate may be either crushed rock or gravel. Whether of crushed rock or gravel, the material is trap rock, limestone, granite, sandstone, basalt, or conglomerate. Trap and limestone of dense textures are considered the best materials for the purpose, as they are strong and crush to more or less cubical fragments. Granite and basalt are not so well suited for aggregates as they are likely to break into spawls or flat pieces, which become troublesome in tamping the concrete due to their tendency to "arch" and produce pockets. Sandstone is rather too porous to be classed as a first-class aggregate. Conglomerate, if possessed of a cubical cleavage, makes a good aggregate. The material must be clean and free from surface coatings or fine or foreign substances.

The size of large aggregate for any purposes will range from $\frac{1}{4}$ " to sizes as high as $3\frac{1}{2}$ ", or even one cubic foot displacers. The question of maximum allowable size of stone depends entirely upon the nature of the work, but it is essential that the gradation or proportions of stone of intermediate sizes be such as to produce a minimum of voids and a maximum of density. It is usual to specify the maximum size allowable as either $\frac{3}{4}$ " or 1" in reinforced concrete work.

The sand, or fine aggregate, requires very careful study and attention.

The sand, or fine aggregate, with the proper volumetric addition of cement, constitutes the cement mortar or binder for the larger aggregate. The proportion of cement to fine aggregate is very important, and it is also essential that the fine aggregate possesses certain physical characteristics. To determine the characteristics of any fine aggregate of sand, it should be examined for:

1. Strength of grains.
2. Cleanliness or freedom from clay, loam, dirt, and organic matter.
3. Sizing of particles, or mechanical analysis.
4. Weight per cubic foot.
5. Percentage of voids.

Strength of Grains.

A mortar cannot be any stronger than its weakest component. It is necessary, therefore, to select a fine aggregate, whose grains are of sufficient strength. Sands whose grains can be easily crushed by rubbing between the palms of the hands or by slight pressure are not fit for use. Sands that soften when placed in water or impart to a permanent turbidity, are to be avoided. To this class belong those sands derived from chalks and shales.

Quartz sands as a general rule are preferable to all others. They contain less decomposed mineral matter and have great grain strength. Sands derived from dense crystalline limestones are also considered excellent material. Artificial sand or screenings made in crushing a durable crystalline limestone, are by some authorities considered superior to all other sands if they do not contain too much fine dust.

Cleanness.

Sands containing clay, loam, dirt and other organic matter should be avoided. Such sands might be improved by washing, but this procedure may be more expensive than getting a clean sand from some other locality. In working up a mortar made from dirty sand, the clay and loam slimes and envelopes the sand grains, thus preventing a bond between the grains and the cement grout. These foreign substances also exert a marked influence upon the setting of the mortar. They greatly retard the hardening and can, in fact, under some circumstances, entirely prevent it.

Sizing of Particles or Mechanical Analysis.

Of decided influence upon the strength of the mortar is the sizing of the sand grains. For the purpose of deter-

mining the proportional parts of various sizes, a sample of the sand is passed through screens with various mesh. It is usual to employ screens of the following nominal sizes: $\frac{1}{4}$ " 10-mesh, 20-mesh, 30-mesh, 50-mesh, and 100-mesh. By plotting the results of these screens or mechanical analysis determinations, it is possible to determine the suitability of the sand, and in special cases to determine advantages that may accrue from the addition of coarser or finer materials. A comparison of the plot or curve of the determination is compared with standard or ideal curves which latter are based not simply upon theory but upon long and extensive series of tests by the United States Government and many other independent investigators.

Weight Per Cubic Foot.

The determination of the proper weight per cubic foot of the stone serves as an indication of the density of the material and in conjunction with the determination of the voids and the mechanical analysis furnishes an excellent guide on the density of the material.

Percentage of Voids.

The percentage of voids in a sand is not as significant as the sizing of particles on mechanical analysis.



H. H. MORGAN.

It does, however, assist considerably in checking the observation of that test and in consideration of the other tests.

Conclusion.

The demand for a scientific examination, and by scientific we simply mean a thorough, intelligent examination of fine and coarse aggregates, is increasing at a rapid rate, and I am confident that you gentlemen should all familiarize yourselves closely with the conditions and facts relative to this matter so that you may be in a position to pass judgment or exercise your judgment on the various materials which you handle.

In conclusion of this subject of the testing of materials I wish to say that my personal experience in connection with the largest firm of inspecting and testing engineers has extended through somewhat over ten and one-half years' time and that even during the period of that time the company's business has doubled itself again and again. When I tell you gentlemen that this company at the present time employs close to 600 men, of whom the majority are men of years of practical and sound experience, I am emphasizing the fact that there is a definite commercial value on the testing of materials. I wish to say further, that there is no large building or structure of any kind put up in this day on which such materials as steel and cement are not inspected; and inspected, mind you, either directly by the user or parties acting directly in the user's interests.

This subject of testing of materials should be of value especially to the dealers of material. You occupy a position between the manufacturer and user, and the excuse for your existence is the fact that you are directly in touch with the user's wants and can act as a clearing-house for the manufacturers so that you are in position to fill all of a particular client's requirements. In this position it is fundamental that you secure a protection for yourself and the user of your material, and this you can only do by assuring yourselves that the material you handle is what it should be. Aside from the necessity of your direct action in securing the inspection and testing of your materials, I, personally, gentle-

men, am of the opinion that your efficiency and the increase of your business as dealers of materials will be directly proportional to your knowledge and familiarity with the materials which you handle. In many lines of business other than that of the handling of building materials I, personally, have seen the position of the middleman weakened and in some instances put entirely out of existence. In most cases I am confident that the reason for this happening has been the fact that that particular set of men has not been closely and intimately familiar with the materials which they handle, and as a result, have not been able to properly protect and secure their clients' interests. Gentlemen, you are just as much the agents of the users as of the manufacturers, and the closer and more intimate your knowledge of the properties, qualities and uses of the materials you handle, the greater and more profitable will be your success.

ADVERTISING TO INCREASE BUSINESS.

For the purpose of creating an immediate demand for materials, the Parsons Lumber Co., of Rockford, Ill., is sending out circulars emphasizing the fact that the present demand will afford builders an opportunity to save money because of the low prices existing on a number of commodities. "Build and repair now" is the slogan of a late circular which has been printed in order to inform the residents of Rockford that a home can be built at a moderate cost and that in the construction of such a home the Parsons Lumber Co. is in a position to offer valuable suggestions.

Having engaged in the handling and sale of lumber and other materials for a good many years, the experience thus gained has been capitalized and members of the firm are informing the trade that they are in a position to give expert opinions on building material, of which they carry a complete line.

RETAIL NEWS IN BRIEF.

The Rice Lumber Co., of Pineville, Ky., is the name of a new concern which will handle lumber, brick, lime, cement and, in fact, all kinds of building material. The members of the firm are Clyde Rice, F. F. Caywood and J. M. Pope, all of Harlan, Ky.

The Congleton Lumber Co., of Lexington, Ky., contractors and dealers in building supplies, have taken over the unfinished contract of the defunct Whitton-Wheeler Construction Co., of Louisville, Ky., on the new theater of the Phoenix Amusement Co. The Louisville concern had completed about \$10,000 worth of work on the \$40,000 contract at the time of the failure. The work will be rushed to completion by about October 1.

James E. Turley, of English, Ind., who is handling building supplies along with hardware, implements, fencing and general merchandise, reports that he has been doing exceptionally well with his building supply department this season. Several cars of plaster, cement and steel roofing have been received lately and are moving well.

SPECIFIES REQUIREMENTS OF RETAILERS.

Walter L. Woods, of the Standard Material Co., Chicago, has defined for ROCK PRODUCTS AND BUILDING MATERIALS requirements for retail dealers. Summing them up in four words, he mentions time, energy, efficiency and satisfaction.

Referring particularly to his requirements as a retailer in the Chicago market he mentions his principal requirement as cessation of labor troubles.

A movement is said to be on foot at Clinton, N. Y., for the development of a large company composed of some of the leading business men at that village for the purpose of engaging in the sale of flour, feed and building materials.

* One of the interesting topics discussed at the last meeting of the National Builders' Supply Association was "The Value of the Testing of Materials from the Dealers' Standpoint," by Mr. Morgan. The first installment of his paper was presented in the last issue.

BUILDERS' SPECIALTIES

Specialties and Building Material Advertising

Showing How the Handling of Coal Chutes Assists the Dealer to More Productive Advertising.

A building material dealer in Southern Illinois stopped advertising because, as he said, "it don't pay," and in going into the matter it was found that he had religiously used a six-inch space in his local newspaper for several years. And this is the message his advertising brought to his trade.

JONES LIME & CEMENT COMPANY
Dealers in
Building Materials & Lumber
Jonesville Illinois

Week in and week out this ad appeared, telling the 5,000 inhabitants of Jones' town that he was in the building material business, while half the people called him by his first name. His argument in defense of this kind of advertising was that there was nothing he could say about the products he was handling that was not generally known by his trade, so he had nothing to say that would attract their attention.

Perhaps the above case is an exceptional one, but there is no doubt that the most neglected department in the business of the average building material dealer is his advertising, which is ordinarily along the lines of general publicity inasmuch as he is unable to write distinctive advertising on his general lines. So it is interesting to note how the handling of coal chutes and kindred specialties can be used to overcome the obstacles in producing advertising that pays.

It is human nature to be attracted by new things and therefore an advertisement on coal chutes is bound to create more attention than one on general building material and this increased interest is not only in the product but also in the dealer advertising it.

The series of articles on coal chutes appearing regularly in ROCK PRODUCTS AND BUILDING MATERIALS are prepared for the sole purpose of interesting retailers of building materials in the splendid opportunities and profits offered in the sale of specialties. This particular article is being emphasized to illustrate the points brought out in the discourse. What is true of coal chutes is likewise true of all specialties.

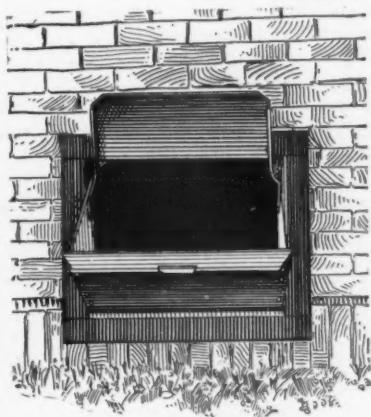
name, which insures the advertiser of any benefits that may result.

Because of the fact that coal chutes are practically a new product and need publicity, the manufacturers are very willing to give the dealers every possible assistance in the advertising by furnishing them with sales compelling literature and complete electrotypes for newspaper advertising, making the dealers' work in the matter very light. And, in the case of the smaller dealer who does not feel competent to plan his own advertising, this is a decided help, for it practically gives him the use of the manufacturer's experienced advertising man. This is particularly of advantage in newspaper advertising, for the common pitfall for dealers is the neglect to change copy of their advertisements. Where electrotypes are furnished by manufacturers, it is no trouble to change at least once a week.

Building material dealers have often been heard to say, and it is true, that if their trade could be made to visit the show rooms, giving the dealer a chance to have a heart-to-heart talk with them, a great number of sales could be made that are otherwise lost; therefore, is it not reasonable to believe that the advertising of coal chutes would be profitable from the standpoint of attracting trade to your place of business and not considering the direct sales that the advertising is bound to create?

Don't Blame the Coal Man

when he smashes your coal room window, batters the sash and frame and musses up your outside walls generally. Don't go on paying repair bills to repair this damage. Install a



COAL CHUTE

The big, wide open coal hopper catches all the coal and sends it into the bin where it belongs, and the protecting shield protects the walls of your building absolutely.

You can quickly install a coal chute in any building, old or new, at a small cost and it saves its cost in repair bills.

Price\$12.00

Here we have a typical coal chute advertisement. If set up in good shape it is bound to create interest, for there is not a building owner who has not had the unpleasant experience of being put to expense in having his coal room window repaired. This experience makes him very susceptible to coal chute advertising. Furthermore, in advertising coal chutes, interest is being created in a distinctive product usually having a trade-marked

W. T. Patriek and R. D. Gorman.

The Economy Building Material Co., Manhattan, New York City; capital, \$20,000; incorporators, Louis M. Eichorn, Louis Moss and Isadore Green-gold.

National Coralite Corporation, Dover, Del.; to manufacture building materials; capital, \$300,000; W. B. Graham, William M. Golden, Jr., Dudley B. Howard, New York City.

WHEELING FIRM HAS GREAT BUSINESS.

"You see our wagons, everywhere," has become a phrase so well known in Wheeling, W. Va., and the immediate vicinity that it is almost superfluous to say that the wagons belong to the Wheeling Wall Plaster Co. It is possible to buy from the Wheeling company anything whatsoever in the way of builders' materials, not only wall plaster but also cement, clay products, metal products, waterproofing, mortar color, lime, sand, gravel, roofing and fiber. Of wall plaster over a dozen different kinds are made in the company's factory, which is now turning out over 100 tons daily.

Hard wall plaster is manufactured from gypsum rock, hydrated lime, and river sand. Gypsum rock has only been used since 1890, and so far but few beds have been discovered in the United States. One is at Oakfield, N. Y., one at Grand Rapids, Mich.—the entire city being located over the middle of a 20,000-acre bed—one at Port Clinton, Ohio, where there is a 300-acre bed, from which the Wheeling firm gets its raw material for the manufacture of wall plaster. Other deposits are in Iowa and Oklahoma.

What is known as a "calcine" process is used in the manufacture of wall plaster from gypsum rock, the latter being burned, ground, and then mixed in due proportions with hydrated lime, river sand, and goat's hair. The sand is dried in a special kiln with a capacity of 100 tons daily.

The Wheeling Wall Plaster Co. has furnished material, especially plaster, for all the more recent of Wheeling's big buildings. The post office, Hotel Windsor, Hawley building, Ohio Valley General hospital, B. & O. station, the new high school, Schmullbach building, German Bank, Hub building, the new National Bank, and the New Rex theater are some of the structures to which the company has supplied and is supplying material.

The firm has developed a very efficient department system and ascribes much of its success to the men who have charge of the various bureaus. R. W. Marshall is the president and general manager and has organized the forces of the company into a true business unit. Clyde B. Upton is head of the service department; Gustave W. Liebe, secretary of the accounting department; Harold W. Becker, sales department; Edward L. Fundis, traffic manager; Edgar Aaron, sand dredging fleet; Frederick W. Mahan, city representative; order department, James E. Davidson. Geo. S. Eberts is in charge of the Warwood branch and M. E. Sample of the Peninsula branch.

NEW RETAIL INCORPORATIONS.

The Jeannette Union Planing Mill Co., Jeannette, Pa.; capital \$30,000; to carry on a retail lumber and builders' supply business; incorporators, H. E. Marker, R. E. Best and C. B. Hollingsworth.

The Edward Tomajko Lumber Co., Washington, Pa.; to retail lumber and builders' supplies; incorporators, Carl D. Smith and Gilbert F. Zehner.

The Retail Lumber & Supply Co., Shawano, Wis.; capital, \$10,000; incorporators,

EVANSVILLE TO HAVE LARGE STRUCTURE.

Evansville, Ind., July 19.—The G. A. Fuller Co., of New York, which is erecting the new ten-story building at Evansville, Ind., for the Citizens' National Bank, has let about sixty per cent of the sub-contracts and will shortly award the balance. Most of the contracts have been awarded to Evansville concerns, among which are J. H. Herron, plastering; Ohio Valley Roofing Co., roofing and sheet metal work; Indiana Builders' Supply Co., terra cotta floors, arches, partitions, furring, cement and lime; Standard Brick Co., face and common brick; and the Independent Sand & Gravel Co., sand and gravel. This will be one of the best jobs of the season for the Evansville material men.

NEW BUILDING LAWS FOR CALIFORNIA CITIES.

The cities of Oakland and Berkeley, on the east side of San Francisco bay, are now in the midst of the revision of their building laws. The new Oakland law, together with 125 proposed amendments is now before the city council. The new Berkeley law is believed to be about in its final form.

Badger State Dealers Enjoy Outing.

Dull care was delivered a severe wallop when about 125 building material dealers of the Badger state, members of the Fox River Valley Building Material Dealers' Association and the Northern Wisconsin Building Material Dealers' Association, assembled at Cabot's Lodge, a summer resort about five miles distant from Sturgeon Bay, Wis., on July 10-11. The outing was the visual response to an invitation extended by H. R. Isherwood, general manager of the Sawyer Lumber Co., Sawyer, Wis., to the members of the organizations about six months ago to hold an outing in Door

o'clock Sunday morning, and together with a number of the local business and professional men, made a trip out through the cherry orchards and around the peninsula. A stop was made at Ephraim for dinner, after which the party continued on around the peninsula, crossing over to the lake shore to Baileys Harbor, and returning late in the afternoon.

The members of the delegation were greatly pleased with Door county, it being the first visit for many of them, and the good roads, beautiful scenery and big cherry orchards were a revelation to them.

NEW YORK OUTING DATE POSTPONED.

The date for the summer outing of the New York State Builders' Supply Association has been postponed from Aug. 7 to Aug. 21, according to a communication from George D. Elwell, general manager of the association. As previously arranged, the outing will be held at Manitou Beach, which is located on the shores of Lake Ontario, near Rochester, N. Y.

The date selected falls on Saturday, and it was with the intention of giving the retailers and manufacturers of the state an opportunity to enjoy a week-end outing with their families that this particular time of the week was chosen. Further particulars regarding the outing will be published in a later issue of ROCK PRODUCTS AND BUILDING MATERIALS.

COAL MEN CHANGE ASSOCIATION NAME.

At the National Coal Convention and the tenth anniversary of the Order of KoKoal, held at the Auditorium hotel, Chicago, July 12 and 13, the name of the organization was changed to The National Coal Association and the object changed so as to materially increase the benefits to be derived by its members. In future the prominent features of the association will be its educational work. J. A. Ballard, of Detroit, was elected president and Arthur M. Hull, of Chicago, secretary and treasurer.

THE MILWAUKEE RETAIL TRADE.

Milwaukee, Wis., July 20.—Milwaukee dealers in building material say that business is fairly active, despite the fact that there is not quite as much building under way as there was a year ago. Many large projects have been planned, however, and the work on these has been delayed temporarily until general conditions improve. W. D. Harper, Milwaukee building inspector, believes that the building industry in this city made a fine showing during the first half of the year, considering the general depression. Building material men believe that the year will average up satisfactorily. There has been an unusually large number of residences, apartments and flats started this season, and this class of work has been productive of much business for the building supply men.

BUILDING ACTIVITIES IN DALLAS.

Dallas, Texas, July 19.—Thirty residences, costing \$250,000, and more than \$4,000,000 worth of large buildings are under actual construction in Dallas today, according to W. A. Goode, secretary of the Dallas Building Trades Council, which keeps records of building activities.

Building activities all over Texas have improved greatly during the last few weeks, indicating a restoration of public confidence, according to Frank Hanson, president of the Dallas Builders' Exchange.

"Judging from reports received from various points in Texas," said Mr. Hanson, "there is no doubt that business conditions are improving and

have been improving since June 1. Building permits, building reports, inquiries regarding material, contractors' bids and manufacturers' agents' reports on sales for June indicate materially increased business activity in Texas. I believe that the improved conditions foreshadow the complete restoration of public confidence and that within the next few months business will be at least normal."

Half-Year Shows Building Gain.

New York, N. Y., July 19.—The record of building operations, according to the revised figures of the building superintendents of the five boroughs of New York for the six months from Jan. 1 to June 30 just closed, showed a total estimated expenditure of \$86,027,961, as compared with \$71,379,408 for the corresponding six months of 1914. This is an increase of \$14,648,553 and is official. The number of building projects filed during the same period of 1915 was 6,073, as compared with 5,838 for the same six months of last year, showing that there was an increase of 235 new buildings.

In Manhattan the increase specified in architects' estimates over last year was \$13,361,780, but the total number of buildings scheduled during this period was 258, as compared with 259 last year. There was an increase in tenement house construction, stores, offices and lofts costing over \$30,000 each, and stores and lofts costing less than \$15,000 each. Office buildings, churches, hospitals, stables and garages also showed an increase, but this increase was offset by a decrease in manufactories and workshops, public buildings (places of amusement) and miscellaneous structures.

The borough of Brooklyn showed an increase of 103 buildings to be erected at a decreased cost of \$3,496,225, showing the presence of speculative operations. The gain is due to a larger number of these speculative tenement houses costing less than \$20,000, stores under \$15,000, and miscellaneous structures.

The Bronx showed an increase of 100 buildings costing \$5,894,358 more than during last year, showing that there is a larger use here for building materials. There is a great increase here in the number of brick tenements, which probably accounts for the weekly shipment there during the last six months of approximately 15,000,000 common brick. There were 303 such brick tenements erected there in the last six months, mostly along the line of the projected subways. The cost of these operations alone entailed \$13,590,000 and 98 per cent of them went ahead to completion immediately plans were filed. This leaves a large number yet to be finished inside. There were only 160 tenements of this character erected in the first half of last year at a cost of \$7,438,000. Public buildings in that borough also showed a gain.

Queens shows an increase over last year of five buildings, but with a value of \$1,369,331 less than last year.

Richmond borough shows a gain of 28 additional buildings, costing \$257,970 more than was spent for building construction last year.

Permits issued for actual construction on these plans show 62 per cent actually under way. This indicates greater demand for building materials during the last half of the year.

ADVERTISES CEMENT ON ATTRACTIVE BLOTTERS.

The James C. Goff Co., a retail firm of Providence, R. I., is using an attractively illustrated blotter in advertising the particular brand of cement in which it is interested. The blotter presents a splendid picture of the Pedro Miguel locks, located near the Pacific terminal of the Panama canal. Attention is called to the vast quantity of concrete work necessary in the construction of these locks and the fact that the work was constructed exclusively of Atlas Portland cement.



H. R. ISHERWOOD,
Chairman, Committee on Arrangements.

county, and to whom great credit must be given for the superbly good time had by every visitor.

On Saturday the delegates arrived at Sturgeon Bay at all hours of the day and near 6 o'clock in the afternoon were taken in launches provided by the Commercial Club of that city to Cabot's Lodge, whereupon they sat down to a magnificent dinner served in the beautiful dining room of the new resort and made merry as they partook of a meal that would have done credit to the largest hotel in the country.

There was no set program, but after the dinner was served H. C. Scofield, of Sturgeon Bay, president of the Sturgeon Bay Commercial Club and manager of the largest hardware store in Wisconsin, acting as toastmaster, called upon a number of those present for some impromptu remarks. Among those responding were W. Y. Church, of Marinette, representative in that territory of the Edward Hines Lumber Co., of Chicago; H. H. Plummer, of Menasha, one of the old-time lumber dealers of the state; Henry Dumdy, of the Denmark Lumber Co., of Denmark; Rufus Brown, of Oshkosh; Stephen Balliett, of the Bailliett Supply Co., of Appleton; C. L. Marston, of Appleton, president of the Fox River Valley Building Material Dealers' Association; C. B. Clugston; Gold Williams, of the Marquette Portland Cement Co., Chicago, Ill.; Harry Eckels, of the Lehigh Portland Cement Co., Chicago, Ill.; H. R. Isherwood, and A. L. Ford, of Chicago, of the American Lumberman.

The Peninsula Club orchestra furnished music during the evening.

While a few of the party returned to Sturgeon Bay late in the evening, the majority of them remained at Cabot's Lodge, being greatly pleased with the place. Although the hotel had just been completed and was hardly prepared to open up to the public, the service was excellent, and many favorable comments were passed.

Those who remained over night at Cabot's joined the remainder of the party in Sturgeon Bay at 10

NEWS of the TRADE

Decrease in Building.

Building construction in the principal cities of the United States shows a decrease in comparison with the corresponding period a year ago. Permits were taken out in 122 cities in June, according to official reports to Construction News, for the erection of 24,542 buildings, at an estimated cost of \$63,168,308, against 25,868 buildings involving a total estimated cost of \$81,978,282, for the same month a year ago, a decrease of 1,326 buildings and \$18,809,974, or 23 per cent. Out of a total of 122 cities there were gains in 30 and losses in 71 cities.

The figures in detail are as follows:

Cities.	No. of Bldgs.	1915 Estimated Cost.	No. of Bldgs.	1914 Estimated Cost.	% Gain.	% Loss.
Chicago	857	\$ 7,613,500	1,054	\$ 9,538,300	..	20
New York (Boros Man. and Bronx)	688	5,478,281	918	7,137,738	..	30
Boston	582	5,028,000	541	5,468,000	..	23
Brooklyn	1,432	4,526,677	1,134	5,028,863	..	20
Philadelphia	1,700	3,878,850	1,734	3,779,635	..	3
Detroit	883	3,060,265	939	3,146,110	..	13
Cleveland	1,431	3,378,510	1,360	3,126,595	..	24
Buffalo	575	1,667,000	488	2,569,000	..	35
St. Louis	782	1,465,695	884	1,598,685	..	8
Minneapolis	745	1,350,533	719	1,604,195	..	17
Pittsburgh	377	1,313,472	497	2,450,391	..	51
St. Paul	311	1,169,946	273	2,048,011	..	43
Washington, D. C.	555	1,142,428	472	942,325	..	31
Los Angeles	566	927,340	946	1,682,037	..	41
Rochester	284	900,632	353	1,026,327	..	6
Cincinnati	1,479	840,635	1,233	1,116,585	..	16
San Francisco	619	801,007	493	1,308,883	..	32
Milwaukee	405	838,841	497	945,051	..	19
Newark	228	770,884	287	586,320	..	31
Toledo	278	763,845	381	881,113	..	13
Seattle	607	631,045	788	1,163,165	..	46
Omaha	114	594,560	169	604,026	..	47
Baltimore	260	557,979	339	970,949	..	43
Indianapolis	546	526,309	637	841,338	..	37
Trenton	78	486,367	96	547,899	..	96
Portland, Ore.	391	460,095	534	584,435	..	45
Springfield, Mass.	167	451,538	184	560,735	..	19
New Haven	151	451,025	191	440,271	..	3
Youngstown	115	433,050	144	535,730	..	30
Syracuse	213	414,119	191	325,985	..	75
Columbus	285	417,870	263	625,650	..	24
Duluth	308	397,240	165	251,205	..	58
Oakland	265	395,474	318	451,231	..	13
Albany	316	359,405	331	660,685	..	38
Akron	199	355,235	253	449,558	..	24
Worcester	194	344,148	184	748,598	..	60
Scranton	113	343,185	109	369,469	..	317
Atlanta	284	334,245	209	419,554	..	34
Louisville	210	332,710	209	686,510	..	27
Paterson, N. J.	131	314,748	121	196,536	..	69
Memphis	308	285,473	258	340,012	..	1
New Orleans	279,731	..	..	354,599	..	21
Richmond	122	264,398	95	172,537	..	53
New Britain	54	263,665	50	141,487	..	83
Norfolk, Va.	63	245,386	67	275,287	..	18
Birmingham	250	240,960	308	479,312	..	49
Spokane	88	240,390	54	83,025	..	190
Tampa	168	240,145	131	215,050	..	13
Harrisburg	127	231,900	127	235,537	..	69
Grand Rapids	190	216,908	171	205,237	..	7
Portland, Me.	40	215,425	53	215,325	..	..
Berkeley	208	214,628	107	158,660	..	40
New Bedford	90	201,150	114	209,628	..	25
Salt Lake City	113	199,958	89	223,000	..	14
Dayton	80	192,567	85	187,935	..	2
Fort Wayne	120	173,250	94	193,050	..	56
Pasadena	130	163,859	162	258,945	..	14
Springfield, Ill.	40	162,060	47	299,500	..	45
Erie	124	155,234	165	254,813	..	66
Binghamton	261	155,302	189	270,000	..	29
Reading	71	153,900	44	67,575	..	126
Allentown	34	151,780	30	133,975	..	13
Des Moines	77	150,253	45	193,475	..	27
Sioux City	42	150,253	45	238,590	..	27
Dallas	113	142,135	156	258,945	..	76
Lincoln, Neb.	81	137,867	50	138,550	..	1
Clinton	79	135,670	71	148,010	..	..
Cedar Rapids	41	135,000	45	132,453	..	56
Quincy, Mass.	83	130,613	88	94,022	..	39
Savannah	84	115,580	79	175,300	..	34
Huntington	60	114,480	70	78,314	..	45
East St. Louis	65	98,965	54	153,730	..	33
San Antonio	173	98,210	205	940,900	..	59
Saginaw	44	95,560	68	103,911	..	8
Sacramento	96	94,408	98	229,062	..	71
Haverhill	42	94,130	37	112,550	..	17
Troy	62	93,475	93	85,863	..	..
Holyoke	22	93,015	15	127,000	..	27
Altoona	86	87,673	128	184,067	..	53
Brooklyn	27	83,257	49	124,235	..	33
San Diego	117	82,578	104	486,330	..	81
St. Joseph, Mo.	59	74,985	75	59,689	..	49
Superior	82	72,948	106	260,301	..	73
Kansas City, Kans.	68	72,551	64	125,943	..	42
Stockton	55	70,611	44	125,222	..	62
Hoboken	96	64,140	87	75,721	..	15
Passaic	34	61,940	48	89,390	..	31
Chattanooga	151	61,455	190	60,045	..	2
Wilkes-Barre	57	58,113	106	410,811	..	25
Jacksonville	43	57,113	95	192,172	..	70
Tacoma	136	56,307	119	80,611	..	29
Evansville	136	53,777	133	133,159	..	59
Fort Worth	83	53,553	60	180,175	..	71
Woonsocket	..	40,675	..	31,093	..	31
Topeka	39	39,065	34	70,025	..	44
Bayonne	35	32,784	23	96,160	..	66
Montgomery	38	26,286	44	41,014	..	36
San Jose	35	23,370	44	47,599	..	51
Colorado Springs	31	15,855	36	15,810	..	..
Totals	24,542	\$63,168,308	25,868	\$81,978,282	..	23

This is the most significant decrease as a whole for the 12 months, but it is very clear that conditions are upon another plane in this country and while the low level reflected by these figures is not below that of a decade ago, it will not be more

than two months until the figures will show a gain in comparison with the operations of the corresponding period of last year; operations will then proceed at an increasing ratio until the accumulation of wealth as well as urgent necessity will put construction again on the high level upon which it must continue in order to accommodate the increasing population and the growing industrial development of the republic. It is worth while here to call attention to the large accumulations of capital. The accumulations of capital are large, enterprise is stifled and the force it will exert when business conditions show a permanently forward tendency and the obstacles to continued progress are removed will carry the totals far beyond anything ever before heard of in this country.

A careful individual analysis of any one section of the country or group of cities is not essential at this time as the decrease is general. Those interested should keep an eye on the new centers of interest which promise to soon begin to show marked activity. The activity will be in localities in which building has not been so active as heretofore and therefore it will require a rearrangement of plans to meet the changed conditions. People must look forward to the communities in which there has been little building in the recent past and in sections where construction has been in excess of former times there will not be so much going on.

Of all the large cities Philadelphia is the only one to show an increase, and that very small, 2 per cent, in comparison with the corresponding month a year ago. Other increases include: Washington 21 per cent, Newark 31, Omaha 47, Trenton 96, New Haven 2, Youngstown 30, Syracuse 75, Duluth 58, Scranton 13, Paterson, N. J., 69, Memphis 1, Richmond 53, New Britain 83, Norfolk, Va., 13, Spokane 190, Tampa 13, Harrisburg 69, Grand Rapids, 7, Berkeley, Cal., 40, Dayton 2, Reading 126, Allentown 13, Quincy, Mass., 39, Huntington 45, Troy 5, St. Joseph 42, Chattanooga 2, Woonsocket 31, Colorado Springs 11.

Decreases were as follows: Chicago 20 per cent, New York 20, Boston 33, Brooklyn 20, Detroit 15, Cleveland 24, Buffalo 35, St. Louis 8, Minneapolis 17, Pittsburgh 51, St. Paul 43, Los Angeles 41, Rochester 6, Cincinnati 16, San Francisco 32, Milwaukee 12, Toledo 13, Seattle 46, Baltimore 43, Indianapolis 37, Portland, Ore., 45, Springfield, Mass., 19, Columbus 34, Oakland 12, Albany 58, Akron 16, Worcester 54, Atlanta 20, Louisville 37, New Orleans 21, Birmingham 49, New Bedford 25, Salt Lake City 14, Ft. Wayne 56, Pasadena 54, Springfield, Ill., 45, Erie 66, Binghamton 23, Des Moines 22, Sioux City 37, Dallas 76, Canton 8, Cedar Rapids 50, Savannah 34, Elizabeth 17, Nashville 65, Wilmington 37, East St. Louis 35, San Antonio 59, Sacramento 71, Haverhill 17, Holyoke 27, Altoona 35, Brockton 33, San Diego 81, Superior 72, Kansas City, Kas., 42, Stockton 62, Hoboken 15, Passaic 31, Wilkes Barre 85, Jacksonville 70, Tacoma 29, Evansville 59, Fort Worth 71, San Jose 51.

It is fortunate that one swallow does not make a summer and it may be said with some satisfaction that one bad month in building may be followed by eleven busy months, or sufficient to maintain a fairly satisfactory average.

The Holt Lumber Co., Carbondale, Pa., wants quotations on 80,000 tapestry brick and also on lump lime.

Chicago Strike Over; Building Active.

The strike of 16,000 union carpenters, which for over two months has virtually paralyzed the building industry of Chicago, is over and construction work to the extent of \$30,000,000 is again under way.

Settlement was reached on July 10 after committees representing the union carpenters and the Building Construction Employers' Association and building material interests had been locked in conference an entire afternoon and until 3:30 a. m. The result of the conference is an agreement which provides that the men shall receive 70 cents an hour and that they accept what is called an "uniform agreement" for three years, which will prevent strikes and lockouts. It also provides for a closed shop and stipulates that there shall be no restriction regarding the source of building material—whether it is manufactured in Chicago or elsewhere. The settlement was regarded by both sides as a compromise.

Thomas Carey, president of the Carey Brick Co., locked the conferees in after the men had argued for hours without making any headway. He personally guarded the door until a settlement was reached. This plan of compelling the men to come to a settlement was the same as used by Mayor Thompson so successfully in settling the recent car strike.

Coincident with the settlement of the carpenters' strike, building material manufacturers and retailers lifted the ban on the delivery of materials. With the resumption of deliveries on Monday, July 13, work was commenced on buildings which had been left unfinished since April on account of the strike of carpenters and other trades.

During the period of July 2 to July 10 there was not a single item of building material delivered by the retailers of Chicago and this act had a tremendous influence in settling the strike. Many of the union men were employed by independent contractors who had signed up the agreement and the non-delivery of materials naturally threw these men out of employment and forced the union men to settle their differences with the contractors.

The refusal of the retailers to deliver materials and the uncertainty of the length of the strike had its effect upon the building material industry of the city and with some commodities, especially brick, the depressing influence on business is still felt. Face brick manufacturers who ship into Chicago were kept busy day and night, just previous to July 2, but upon being notified to suspend deliveries they practically forgot the Chicago market and diverted their supplies to other large centers, principally in the East. As a result, when they were asked to resume deliveries they were not prepared and for at least ten days thereafter retailers and their salesmen were meeting with a good deal of difficulty in substituting brick available for the kind specified. The dealers are optimistic, however, and believe that brick and other supplies will be in such strong demand that the remainder of the building season will almost if not entirely make up for the time lost.

During the past week construction work has been commenced on two structures whose separate cost will exceed \$1,000,000. Work has been started on the new \$5,000,000 Field Museum of Natural History, which is to adorn Chicago's lake front. The exterior of the structure will be of marble and

when completed the building will be the largest marble structure and one of the largest museums in the world. Work was also begun on the Y. M. C. A. hotel, the total investment of which will be \$1,175,000, and which will provide 1,865 rooms.

Among structures planned for Chicago in the near future are a \$1,400,000 hotel, \$85,000 "movie" theatre, \$225,000 48-apartment building and a \$1,000,000 office and mercantile building.

Conditions in Western Canada.

Winnipeg, Man., July 19.—Building operations continue to be very quiet in Western Canada. There is a fair amount of buildings being erected, but the total falls far short of that of last year. Various of the Builders' Exchanges and other organizations some time ago started a "Build Now" campaign but very little appears to have come from their labors. The fact is people are waiting for a turn for the better in the war for the allies, and it seems certain that there will not be very much building done until some definite issue takes place in the war zone.

Never have we had prospects of such a good crop in Western Canada as at the present time. Spring started early with ideal seeding weather. This was followed by cool damp weather, while at the present time we are experiencing extremely hot weather, all of which has tended to make for a bumper crop. With this selling at war prices, say at \$1.20, we should see with the additional area which has been cultivated, the most wonderful Fall that Western Canada has had. It is with this in view that business men, especially those in the contracting and building material industries are keeping up their spirits, and are "marking time" until the good time comes after the harvest is gathered. Every builder expects a fair amount of business towards the end of the season.

Western Canada was recently visited by the biggest storm since 1902, which remarkable to say, has done but little damage to crops. Alberta, in the Calgary-Medicine-Lethbridge district, suffered worst. The terrific cyclone and electric storm took away the roof of almost every building in the city of Redcliffe, with the result that the city is now in ruins. At Calgary about \$500,000 damage was done to property, including a bridge which was washed away, drowning two men. The Eau Claire Lumber Company at Calgary lost 2,000,000 feet of logs, which were in the Bow river.

The City Council of Regina, Sask., is going to spend \$88,000 in new work this year. This program includes sewage disposal works, waterworks system, health and relief department, domestic sewers, watermain extensions and street railway extensions.

R. McDonald of Winnipeg has been awarded the contract for putting in the sub-structure for the huge cantilever bridge which is to be built over the Nelson river, at Manitou rapids, for the Hudson Bay railway. This new railway will mean the opening up of that vast undeveloped rich region lying north of Winnipeg extending to the Hudson Bay.

The Ford Motor Car Company, of Canada, is going to build a large assembling plant in Winnipeg, large enough to take care of the business in Manitoba and Saskatchewan at the present time. The plant will cost \$250,000, its size being 100 feet by 200 feet, and four stories high.

Building is more active in Winnipeg than last month. No less than three apartment blocks are being constructed in different parts of the city, costing \$20,000, \$30,000, and \$45,000. A new school costing \$139,543 is going to be constructed in St. Boniface, Man. The building will be three stories high and will measure 156 feet by 83 feet. The building will be lighted by electricity, be completely fireproof, and not a piece of wood, not even for window frames, will enter into its composition. Many residences varying from \$2,000 to \$25,000 have been started recently in Winnipeg. In addition to this there are a few business blocks being erected. Work is being rushed to completion on the "Paris Building" and the "Curry Block," each costing over \$250,000.

An important bylaw was introduced at a recent meeting of the Winnipeg city council, respecting the height of buildings and the approval of plans showing proposed encroachments on public thoroughfares. It provides that no building shall be of greater height than one and three-quarters, the width of the street on which it is to front, and not in any case to exceed 198 feet in height. Spires or towers may be erected above buildings, but must not exceed three-fifths of the height of the building or to exceed 300 feet in any case.

Look for Dull Season.

Cincinnati, Ohio, July 19.—With the hottest kind of summer, which, after a long delay, descended upon this section, came also something of a feeling that it is now or never in the building business, as far as the current season is concerned, the fact being that work which is not started now is more than likely to go over to another season, as was the case last year. However, the amount of work so far available does not by any means show that the advance of the season has operated as a stimulus, the contrary being rather the case. This is due to a distinct lack in volume of business. The comparatively few good-sized jobs on hand and projected, with a scattering of residence work, represent a sum total much below the usual figure and material men are about resigned to the fact that another dull season is at its meridian.

The Brick Sales Co., as the material and building supply business handled by George Rinkenberger is known, has been formally incorporated with a capital stock of \$5,000, by Mr. Rinkenberger and several of his associates. The incorporation is purely for business reasons, to simplify the management of the concern, and indicates no change of any sort in the conduct of the business. Mr. Rinkenberger reports a fair demand for brick in small quantities, larger business being almost entirely missing.

According to the Moores-Coney Co., the best indication noted recently is a better feeling among the architects, who seem to have up their sleeves a good deal more business than has so far made itself manifest to the supply trade in these parts. The company continues to land a few orders worth while, in spite of the undeniable slowness of the season. The company will furnish about 100,000 Johnsonburg horizontal cut brick, made by the Yingling-Martin Brick Co., of Johnsonburg, Pa., for the big stadium at the University of Cincinnati. This structure, which is already under way, will be of concrete with brick-faced walls.

A golden-green rough-texture brick, which is unanimously voted by brick men and architects alike to be one of the handsomest pieces of burnt clay produced in that form, is being handled by the Pursell-Grand Co. and will be used in an attractive residence, to cost \$8,000, designed by Architect W. W. Franklin for Mrs. Clara Slack. The color of the new brick is distinctly unusual, as manufacturers have always found considerable difficulty in maintaining any shade or mixture of green uniformly. The Pursell-Grand Co., therefore, has good ground for believing that the brick will prove extremely popular.

A new concrete bridge to take the place of the steel structure destroyed in the flood in March, 1913, has been opened for traffic in Hamilton, Ohio, the work being done by A. J. Yawger Co., Indianapolis, Ind., for nearly \$150,000. About 12,000 barrels of Universal Portland cement were used. The bridge is 576 feet in length and 66 feet wide, with 10-foot sidewalks.

Louisville Supply Business Improving.

Louisville, Ky., July 20.—The building supply business has been showing considerable improvement in this city during the past week or two, and the outlook is better just now than for several months. A number of large contracts have been let or are about to be let, and the supply houses are all looking forward with expectancy toward obtaining their shares of the business.

R. B. Tyler, president of the R. B. Tyler Co., reports that the building supply business is far more active than for some time. Not very many big contracts have been handled during the month, but there are a number which the company expects to close inside of the next few days. Sales of lime and cement have been very good. Road work has been a little slow in developing this year, but there is a good deal of this work in sight.

Warren Brothers report that the volume of orders for small stuff is holding up exceptionally well and that the concern has no fault to find with conditions existing at this time. Very few big contracts have been handled and the demand for contractors' equipment has been rather light.

The Union Cement & Lime Co. is very busy with lime and cement orders, but has not been doing so much in the brick end of its business. The brick veneer type of house is growing in popularity, and is another brake on sales of anything but the higher grades of face brick.

Car-lot movements of prepared roofings have dropped off somewhat with the Central Paint & Roofing Co., according to L. M. Rice, president of the company, but the volume of business on small lots and broken cars is far ahead of last season. Collections are abnormally slow for this season of the year.

The Tyler Building Supply Co. expects to shortly land the brick contract on the large additions to the Tyler hotel. The Tyler Realty Co. recently increased its capital stock from \$216,000 to \$316,000 to take care of the proposed additions. The original hotel was built of a special red brick furnished by the "Hy-tex" people, and therefore the Tyler Building Supply Co. is sure of getting the brick contract in order that the same brick may be used on the addition. It is possible that the company will also furnish most of the supplies on the building, as some of the same interests are connected with both concerns.

Boston Contracts More Numerous.

Boston, Mass., July 19.—From the first to the middle of this month 260 building permits were issued here and the valuation of the projects is \$2,705,000, according to the report furnished by the F. W. Dodge Co. Nearly \$100,000,000 in construction contracts has been the New England record of the first half of the year, the figure being to date \$93,152,000. This is about \$3,000,000 behind last year, but \$1,000,000 ahead of 1913.

The labor conditions are good and building material men in consequence are looking for very active business in September. The rise in the cement price has not prevented fairly active midsummer business, despite the fact that larger building projects are almost entirely absent.

A development of interest in the center of Boston is the sale of the Pratt building, 48-54 Bromfield street, on the site of which William J. Stober, the purchaser, plans to construct a modern mercantile building to replace the present five-story brick and stone building, which is to be torn down.

The Boston Contractors' Clearing House has been incorporated with \$25,000 capital. The directors are A. A. Smith, president; C. W. Whitmore and R. W. Stearns.

N. B. S. A.

Price Cutting—and the Remedy

The National Builders' Supply Association, in setting forth its program to dealers of the country, believed that it was a good thing and a real necessity that this program should contain some reference to "price standardization," and accordingly we find written therein the following statement:

To assist in promoting sentiment that will materialize into legislation permitting price standardization.

Possibly to the dealer who has not given this particular subject a great deal of thought, this part of the association program does not appeal, but if this very same dealer is beset with the troubles that are attendant upon price cutting, this part of the work is just what should be of most interest to him, and why?

In practically every locality visited by the field secretary of the National Builders' Supply Association, he is confronted by a condition that is caused by the ever-present price cutter, and to any one who has had experience with situations of this kind, the state of mind in which he finds dealers is not unknown. It would seem that this evil, above all others, can do more to drive farther apart any efforts toward coöperation than all the other troubles and trials of the dealer combined, and a careful study of the question reveals the fact that the longer the settlement of their difficulties is left to themselves, the more difficult it becomes to apply an early and lasting remedy.

Right here, the dealer who is probably fortunate enough to have escaped thus far the difficulties of a situation of this kind, will ask the question, "Well, how does this interest me?" It interests him to this extent that he is never free from the danger of eventually becoming a victim of this evil, and just when he is free from it should be the time for him to look at the condition of his less fortunate brother, who is located probably across the line, analyze his case and endeavor to effect a remedy for him and a preventative for himself. And this remedy lies in the legalizing of price standardization. Why?

In the first place, it is not to be believed that this unfair method of competition is resorted to unless the offender believes that he has some good and sufficient reason for so doing, and nine times out of ten, what do we find this reason to be? Merely the presumption on his part that competitors in the same field have resorted to the same methods, and owing to the lack of proper local organization (which would enable the party who thinks he has been sinned against to find out first hand from his competitors whether or not the reports brought to him by his customers, who in many instances are no-good contractors, were true), the "merry" war is continued and increases in bitterness. Of course, occasionally, it is found that some dealer has been misled into believing that the way to his further progress lies in the elimination of competition by means of ruinous prices, and he also creates a situation which exists until he realizes that coöperation versus competition wins every time.

Unfair practices in business or any other phase of life are bound to result to the injury of those practicing them. If, for instance, we are unfair to our body, just so sure do we suffer for our mistakes, and the same law applies in all its entirety to every other form of human endeavor. However, in most walks of life we are protected from the unfairness

of our brothers by means of the law, which while acting as a preventative to guard us against committing any such offenses, also provides suitable reparation in the event that we are victimized. Only in the question of distribution of a manufacturer's products through his dealer do we find this lack of protection, which permits the dealer, if he so desires, to sell his goods below a safe margin in order to eliminate, if possible, competition in the same line, or to use the commodity as a leader in attracting business to himself.

All must agree, therefore, that the necessity for legislation which will prevent this price-cutting is urgent, and it will be realized after a careful analysis of conditions that it is absolutely necessary that the business men get behind this movement and give it the impetus which is needed.

Industries other than the building supply business are giving this matter careful attention, and only this morning (July 21) we find in the press reports of a decision handed down in New York City yesterday wherein a big cereal company was justified in its efforts to prevent price cutting by its customers, the jurist in his decision stating that selling below cost by the retailer would take from every retailer near a store which practiced such methods the last incentive to buy the product.

The National Builders' Supply Association is co-operating with other agencies to the end that this question will be settled definitely at as early a date as possible, and in the organization of local associations throughout the country, in which it is assisting, the thought is driven home that in their success must lie a freedom from practicing business methods other than fair. The policy upon which they are basing their formation is the promulgation of strict credit rules, fair business dealings and a spirit of coöperation, and the readiness of the National association to step in at any time and adjust what little difficulties the local may encounter, and they are sure to come, assures the success of their plan.

NOTES FROM THE FIELD.

Applications for membership have been received during the past two weeks from the following individuals and firms:

Chicago & Oak Park Supply Co., Chicago, Ill.

N. E. Holden, Danville, Ill.

Hunter, Rourke & Co., Urbana, Ill.

Field Secretary Gaines is at present busy in several cities assisting in the organization of district locals, and it is to be hoped that in the next issue the names of a substantial addition to the roster of the N. B. S. A. can be given.

At the time of the sixteenth annual convention, held in Chicago last February, the association had a membership of approximately 350. When the time comes for calling to order the seventeenth annual meeting, which will be held in Cleveland, Feb. 17-19, this membership will have been at least doubled, and the organization developed into a working body that will be accomplishing results.

Secretary Desmond will attend the mid-summer meeting of the Ohio Builders' Supply Association, which is to be held at Cedar Point, July 22-24. Incidentally, there will be held a meeting of the

mutual insurance committee of the National Builders' Supply Association at the same time. Something big in connection with this matter may be looked for soon after.

Ohio Retailers in Session.

Building material retailers in the state of Ohio are assembling at Cedar Point for the annual mid-summer meeting and outing of the Ohio Builders' Supply Association at the new Hotel Cedar.

Of the three days—July 22, 23 and 24—but one has been set aside for business, that of Friday, the 23rd. There will be no set speeches, but the program lists general discussions on topics of vital importance to retailers. Among these will be the question of handling cement and, according to Secretary F. H. Kinney, the committee investigating this matter will have an interesting report to make. There will also be discussions on lien laws and cost systems, as well as on the question of organization.

The banquet, which will consist of a fish dinner, will be held Friday evening and, judging from the remarks of leading members, will be partaken of in large numbers by the fairer sex. At practically every Ohio mid-summer outing wives take advantage of the dealers' trips to the resort in Lake Erie and spend the three days enjoying themselves either bathing in the water or basking in the sunshine.

EASTERN ASSOCIATION OFFICERS FORM ORGANIZATION.

A definite organization of the executive officers of each of the various Eastern building material dealers' associations has been formed with George D. Elwell, general manager of the New York State Builders' Supply Association, as chairman. Seven associations are affiliated in this movement and the arrangement has been found exceedingly advantageous in handling questions equally perplexing to the districts covered by these associations.

By means of this affiliation the executive officers of each and all of the various bodies have the support of the dealers and the organizations throughout a large part of the Eastern territory, where conditions are practically identical. Already it has been possible to accomplish through this affiliation a great many improvements and reforms in the marketing of various products, in no way, of course, touching a price question. The associations covered by the Federation of Eastern Dealers are as follows:

Building Material Dealers' Association of Eastern Pennsylvania.

Building Material Men's Association of Westchester County, New York.

Del-Mar-Col Building Material Dealers' Association.

Long Island Coal & Building Material Dealers' Association.

Mason Material Dealers' Association of New Jersey.

New England Builders' Supply Association.

New York State Builders' Supply Association.

The Williamstown Lumber and Hardware Co., Williamstown, Ky.; capital stock, \$10,000; incorporators, Thomas B. Thames, Arthur C. Bishop, J. W. Bennett and Jamie Bishop; will probably carry a general line of building supplies.

You Know

it's the easiest thing in the world to buy a mixer—but it's not always so easy to operate economically after you have it.

But if you buy a Jaeger Mixer, you are assured of satisfaction and economy. Made of strong, durable materials; with nine years of "mixer" experience built into it, and with a long list of satisfied customers, it is the best value on the mixer market today.



For Concrete, Mortar or Plaster
Four sizes, fourteen different outfits

The Jaeger Machine Co.

219 W. Rich St.
COLUMBUS, O.

Dealers
should add
it to their
line

(See our
Panama
American
Exposition
Exhibit)



SALES OFFICE:
Liggett Bldg., St. Louis



SALES OFFICE:
1010 Republic Bldg., Kansas City

THE Standard Brands

OF
Portland Cement
Lightest in Color
Highest Tensile Strength

ALWAYS UNIFORM
Always the same high quality. Prompt shipment guaranteed at all times and made possible, as each mill is located within switching limits of the two greatest railroad centers of the West. You are assured of your orders being promptly filled.

MANUFACTURED BY

Union Sand & Material Co.

ST. LOUIS
Liggett Bldg.

KANSAS CITY
1010 Republic Bldg.

MEMPHIS
Tenn. Trust Bldg.



Reg. U. S. Pat. Off.

THE numerous details of manufacture that enter into the making of Hercules Red Strand Wire Rope are important factors in producing its uniform, long lasting and economical service. Some of these details are small in themselves, but when combined they make up the difference between a cheap rope and an economical rope.

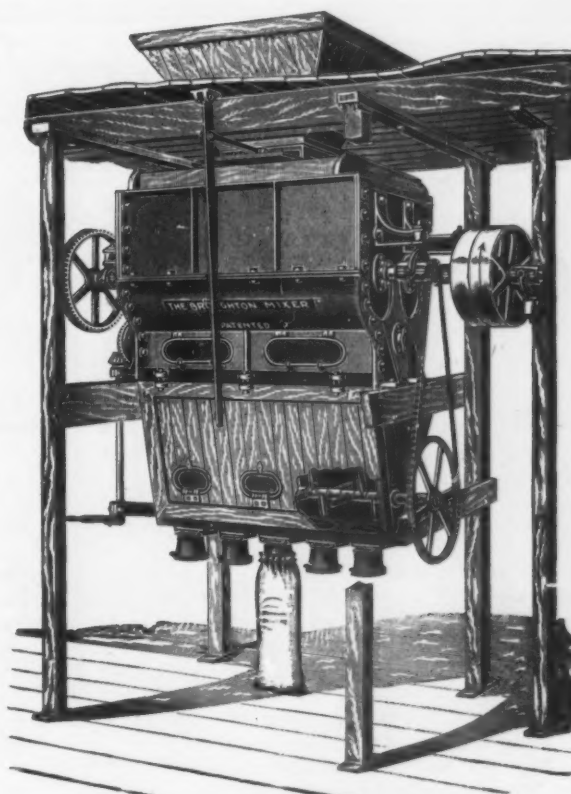
May we send you our illustrated catalog?

57 Years in Business

A. Leschen & Sons Rope Co.

ST. LOUIS, MISSOURI

New York Chicago Denver Salt Lake City
San Francisco



The most thorough and efficient
Mixers of Plaster, Cement and
Dry Materials. Send for Circular.

W. D. DUNNING, Water St., Syracuse, N.Y.

Tell 'em you saw it in ROCK PRODUCTS AND BUILDING MATERIALS

Dealers in Builders' Supplies

who supply their trade with Hy-Rib and Rib Lath, are assured of **more** sales and **more** customers.

Uses for Hy-Rib are found in every field of building construction; Floors, Roofs, Walls, Partitions, Ceilings and Furring. Curved Hy-Rib, bent in our shop, is used for arched floors, culverts, conduits, sewers, silos, tanks, reservoirs and tunnels.

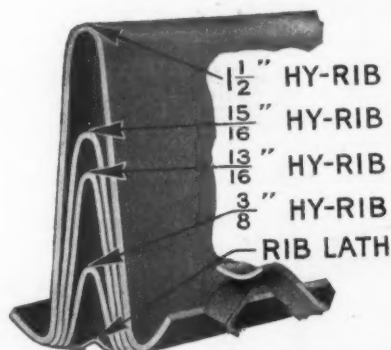
We manufacture also everything in the line of Metal Lath, Concrete Reinforcement, etc.

WHY NOT WRITE FOR OUR PRICES, SAMPLES, ETC.

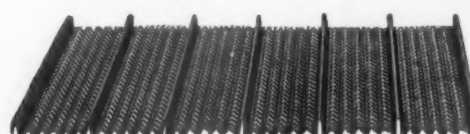
THE COMPLETE LINE

1 1/2" Hy-Rib in 3 gauges.
15/16" Hy-Rib in 4 gauges.
13/16" Hy-Rib in 3 gauges.
3/4" Hy-Rib Lath in 3 gauges.
Banded Plate Rib Lath in 3 gauges.
Standard Rib Lath in 3 gauges.
B Rib Lath in 3 gauges.

Detroit Diamond Lath in 4 gauges.
Pressed Steel Channels in 4 sizes.
Hy-Rib Hollow Studs in 3 sizes.
Corner Beads in 4 types.
Metal Base Screeds of 4 types.
Studs, Beams, etc., in many types and sizes.



It's the Strength of the Ribs that Counts



Hy-Rib furnished in four depths of ribs and various gauges to meet all conditions.



Kahn Pressed Steel Channels in various sizes and types.



TRUSSED CONCRETE STEEL CO., Dept. H-26 Youngstown, O.

Representatives in Principal Cities

So Tough It Won't Break
So Hard It Won't Wear



This fittingly describes **CHABELCO STEEL ROLLER CHAIN BELT**

Every pin and bushing of Chabelco is tested for hardness by means of the scleroscope.



The surfaces of the pins and bushings are case hardened and the centers are mild, soft steel, thus guaranteeing both hardness and toughness.

Chabelco is used on our Concrete Mixers, also for elevating and conveying installations and extensively for drives in cement mills, sand and gravel plants and in any industry where the service is at all severe.

We honestly believe that Chabelco is the best and most efficient Chain Belt on the market today. We would like to mail you free sample links for your inspection.



Pin bent to breaking point. Extreme bend shows toughness, and cracking the hardness of surface.

Send for Catalog No. 54P

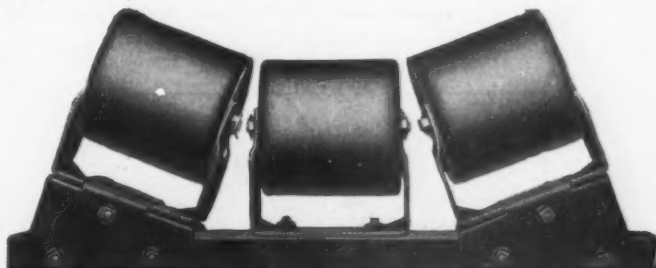
CHAIN BELT COMPANY 16th STREET **Milwaukee, Wisconsin**

Tell 'em you saw it in ROCK PRODUCTS AND BUILDING MATERIALS

A Definite Proposition for Lower Conveying Costs

Table of Savings Secured By the Unit Carrier

ITEM	Reduced
Belt Wear.	15%
Lubrication and Attention	97%
Power	30%
Upkeep	10%
Freight	30%



The above table gives a pretty definite schedule of the savings of the "S-A" Unit Ball Bearing Carrier over the old type Grease Cup Carrier. In every point of operating expense the Unit Carrier has shown a substantial saving. It has made good under all operating conditions. It will meet *your* requirements.

Stephens-Adamson Mfg. Co., Aurora, Ill.

New York, Chicago, Pittsburg, St. Louis, Boston, Detroit, Salt Lake City, Los Angeles, Huntington, W. Va., Toronto

The C.R.S. LOCOMOTIVE CRANE



will increase your storage facilities and decrease your handling costs.

Our Engineering Department is prepared to offer suggestions to help you solve your problems. Why not write us for further information as to how we can

Increase Your Profits

THE CLEVELAND RAILWAY SUPPLY CO.
CLEVELAND, OHIO

Tell 'em you saw it in ROCK PRODUCTS AND BUILDING MATERIALS

EVIDENCE BY THE CARLOAD

REXALL DOUBLE-STITCHED BELTING

The Most Efficient Belt for Elevating and Conveying Service



Two Carloads Rexall Belting

Total Weight 80,000 Lbs.
Total Length 2 Miles

IMPERIAL BELTING CO.

CHICAGO, ILL.

DEPT. "GL"

The Most
Complete
Belt Stock
in the
United States

We Carry
REXALL
in 1000' Rolls
from
1" to 42" Wide



Ask Fritz, the Foreman

on any housebuilding job, what he likes to see delivered at the work for use as a wall base for interior plaster or outside stucco, and nine times out of ten he'll say:

Kno-Burn *Expanded Metal Lath*

The foreman is responsible for the job. That's why he is strong for a lath that he can rely on. He's willing to stake his reputation with his boss, the architect, and the owner on the plaster gripping mesh of "Kno-Burn."

It's easy to sell builders what they want. And if what they want can be handled easily and profitably, that is what you want. You'll find the North Western line of metal lath ideal from your standpoint because it includes a style of lath for every class of work; is shipped promptly; and is always right in price.

Write today for Booklet 293 and get posted

NORTH WESTERN EXPANDED METAL COMPANY

929 Old Colony Building

Chicago, Illinois

Tell 'em you saw it in ROCK PRODUCTS AND BUILDING MATERIALS

CONCRETE

Widening Use of Concrete Posts

The trend of the times, in the construction of all out-door accessories for the home, is to make them durable. They will then give to the property the well-kept look which appeals to all when the question of value, neatness or tidiness is considered. The subject of clothes posts usually is given no consideration, but on contrasting the general appearances of many yards, one is immediately struck with the idea that a post such as shown in the illustration would be a positive economy and advantage. Many a good housewife all too often finds that, due to a weak wobbly post, her clean linen has been blowing all over the backyard until its condition meagers description.

Everlasting Clothes Posts

Concrete clothes posts are everlasting. They keep in better alignment than the lighter wood posts. They will not rot or burn down and they are rigid enough to sustain any number of lines.

The post should be about 11 feet long, 8 inches square at the top and 12 inches square at the base, and should be firmly embedded at least three feet in the ground. It should be reinforced with one-quarter inch round rods placed in each corner so that they will come one and one-half inches from the outside surface.

The form for the post may be made of one-inch lumber cut so as to give the dimensions noted above, or if a smooth floor or walk is available, only the sides and ends of the box need be used. The floor or walk serving as the bottom of form.

Stiffening cleats should be placed across the open side of mold to keep the side forms from bulging when the concrete is placed in the mold.

Do not remove the form from the green post until it has thoroughly hardened, which generally requires two or three days. Allow the post to cure or harden for one week before erecting.

During the first two days keep the post wet and cover with canvas, burlap, straw or other clean

material, and dampen it thoroughly each day for about a week.

The form should be oiled or soaped before the concrete is placed.

The mixture used should be in the proportion of one part of cement, two parts of sand and four parts of rock or gravel not greater in size than one or one and one-half inches. Bank run gravel should not be used but should be screened, passing over three-eighths inch and one and one-half inch mesh sloping screens, the material which passes through the three-eighths inch screen being called sand and through the one and one-half inch screen and retained on the three-eighths inch screen gravel. All measurements should be made with the material poured loosely into the measuring box and the box, when full, should be completely leveled. If, for any reason, the concrete stands thirty minutes before using, it should be thrown away, for cement, once it has partially set, makes weak concrete, even though it is retempered by turning or adding water.

After depositing one and one-half inches of concrete in the form, carefully spade it and then place the reinforcing rods one and one-half inches from the side forms. Continue filling the form, spading thoroughly, meanwhile, until within one and one-half inches from the top, then place the last two reinforcing rods one and one-half inches from either side form. Then fill form completely and neatly trowel or smooth the concrete.

Too much emphasis cannot be placed on the spading of concrete because it is essential that the surface of the concrete be dense and free from voids. No air bubbles should be allowed to form. If considered desirable, convex molding can be placed along the square corners of the mold, thus giving a rounded corner which will not fray the clothes line.

Grape-Vine Posts of Concrete.

The grape trellis shown below was erected more than a year ago on a farm near Chalfonte, Pa. Realizing that construction designed for this purpose is always subject to strain, the owner decided to adopt the most substantial type. This, in the long run, also meant the cheapest type. For these reasons concrete posts were selected. Concrete posts have such rigidity and strength that they can be planted farther apart than is customary with wooden posts, thus requiring fewer in number. They keep in perfect alignment and there is no decay at any point, whereas wooden posts soon rot at ground level and eventually decay throughout.

The posts were made of concrete consisting of one part Portland cement, one and one-half parts sand and three parts small stone. They are reinforced by placing in the corners of each post, about one inch from the surface, a five-sixteenth inch square twisted rod. Three-eighths-inch round rods could be used in place of square rods. The posts are 10 feet long, of which four feet is beneath the ground and six feet above the ground. They are six inches square at the lower end, tapering to four inches square at the top. Through each post five holes are provided to receive the wires, upon which the vines are trained. At the end posts the wires are fastened to eye bolts, three-eighths inch in diameter and about 12 inches long. These bolts extend through the end post and are threaded with a nut for tightening the wire. The bolts and fastenings are clearly shown in the illustration.

In the construction of the Chalfonte trellis the

slanting brace for the end post was cast in place. A notch was left in the post and the form for the brace was set up. The reinforcement of the brace projected beyond the end of the form and into the notch, the end of the form merely fitting up against the post. At the ground end of the brace an excavation was made. When the concrete was placed this excavation was also filled, thus forming a bulb or enlarged end, which answered the purpose of an anchor. The brace form was then filled with concrete, which was worked into the notch, entirely surrounding the ends of the reinforced rods, the latter being curved at the ends to firmly anchor

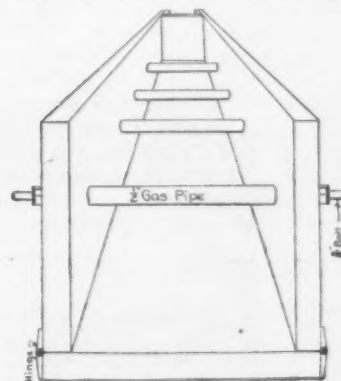


DIAGRAM SHOWING MANNER IN WHICH BOLTS ARE FASTENED.

them. It would be feasible, however, to precast the brace, merely providing for it a notch in the post. The notch could be easily formed by nailing a triangular block to the side of the form. The post end of the brace should be set in cement mortar.

The form for casting the posts is very simple. It consists of three boards, which form a trough the exact size of the finished post. The side boards are attached to the bottom piece by hinges so that they can be readily swung down when the post is removed from the mold. The wire holes are established by placing at the proper points short pieces of one-half-inch gas pipe cut so as to fit between the side boards of the form. Through these short lengths of pipe, which are left in the concrete, are placed temporarily three-eighths-inch bolts. These bolts, which also go through the side forms, serve to clamp the forms together while the pipe spaces



AN UP-TO-DATE CONCRETE GRAPE TRELLIS.

them at the exact distance. This method of fastening is shown in the accompanying drawing. The mold should be oiled with a heavy lubricating oil before casting each post. This permits easy removal of the finished post. Under ordinary conditions the posts should be made at a cost of about 30 cents each. This price is as low, or lower, than the cost of an ordinary wooden post of good quality.

Concrete Posts for Mail Boxes

The accompanying picture illustrates a novel but thoroughly practical use of concrete. It is a post supporting a mail box on a rural free delivery route near Dallas, Texas. The concrete features consist of the post or support for the box. Wooden posts are always subject to rapid decay at the ground level,



EVERLASTING CONCRETE FENCE POST.

where alternate wetting and drying takes place, and to avoid the necessity of renewals and repairs the concrete post was made. It is quite ornamental in design, and at once conveys the impression that the owner takes pride in the appearance of his premises.

A more simple post, one easier to make, would effect the same economy. The form for casting a post of this kind is shown below. The post should be about seven feet long. Planted at a depth of three feet this would leave the box at convenient height for the delivery or extraction of mail. The form, as shown on the drawing, is simply a three-sided box providing for a post 6 inches square. The form is placed on the ground in horizontal position, with open side up, and filled with well-tamped concrete to the depth of about one inch. Then three-eighth-inch reinforcing rods are placed at either side, leaving about one inch space between each rod and the side of the form. The box is then filled to within one inch from the top and two more reinforcing rods are placed on the concrete. The form is then filled to the top and the concrete



CONCRETE MAIL BOX POST NEAR DALLAS, TEX.

struck off. The rods may go straight from the bottom to the top of the post, as it will not be necessary to curve them outward at the bracket.

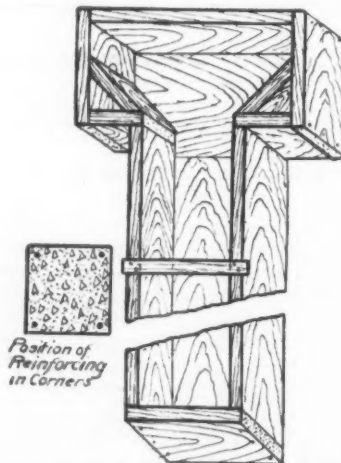
The form or mold may be made with one or more braces nailed across the upper or open side to prevent the sides from spreading when the concrete is tamped. The bracket effect at the top is obtained by inserting extra pieces of wood at the corners, as shown. If preferable a post in the shape of a letter T may be made, eliminating the bracket feature. A perfectly plain post without projecting top would also answer the purpose.

To provide for fastening the mail box to the post, bore two or perhaps four holes through the board at the top of the form. Insert in these holes the bolts with the heads down, or inside the form. The bolts will be imbedded in the concrete when it is placed and when the form is removed the threaded ends of the bolts will project slightly above the top of the post. Holes cut in corresponding position in the bottom of the mail box will permit the bolts to pass through and the box will be secure when nuts are placed on the bolts.

Mix the concrete in the proportion of one part Portland cement, two parts sharp, clean sand and four parts crushed stone, ranging from one-half inch to one inch in size. Allow the concrete to remain in the forms for at least twenty-four hours. When the post is removed protect it from freezing,

or if made in summer, from hot winds and sun. Wet it thoroughly for a week or 10 days after removing it from the forms.

Concrete posts do not warp, decay or burn. When used for fencing they keep in better alignment than wooden posts. Concrete is now used for fence



Position of Reinforcing in Corners

FORM FOR CASTING CONCRETE MAIL BOX POST.

posts, clothes poles, hitching posts and gate posts. Concrete fence posts have been made at an average cost of less than 25 cents each, notwithstanding the fact that all material was purchased, and even in well-timbered districts they are being substituted for wooden posts on account of their low first cost and everlasting qualities.

General Concrete Items.

The Practical Concrete Post Mold Co., Elwood, Ind., has been formed and operations begun.

The Venetian Marble Tile Mfg. Co., 507 Malone street, West Hoboken, N. J., has been incorporated with a capacity of \$25,000. The company will deal in artificial marble. The incorporators are Sylvio Zenorini, 525 Syms street, West Hoboken; Joseph Zenorini, 514 Charles street; Henry Zenorini, 331 Spring street, and Antonio Franzon, 314 Chambers street, West Hoboken.

The county commissioners of Kenton county, Ky., recently opened bids for the construction of a mile and a half of concrete road on the Lexington pike, which is to be the county's contribution to the Dixie highway. The lowest bid received for this form of construction, which has been decided upon as being the best for all purposes, was \$22,000. The state will pay part of the cost. The contract will be let later on.

The Concrete Pipe & Construction Co., of Porterville, Cal., has secured a contract for one and one-half miles of 12-inch irrigation pipe for irrigating olive lands in the Lois district.

The Miracle Concrete Co., formerly located at Kalispell, Mont., has removed to Great Falls, in the same state.

John W. Ash, formerly of Chattanooga, Tenn., and James D. Child, of Corvallis, Ore., have associated themselves and will go into the concrete contracting business at the latter place.

About 6,500 feet of rock concrete revetment work is being done on the Sacramento river at Oak Hall, near Sacramento, Calif., at a cost of about \$75,000.

Owing to the earthquake experiences of the Imperial Valley, in the extreme southern part of California, new building regulations will be put into effect regarding the use of brick, concrete and plaster houses. Reinforcement of some sort is to be insisted upon.

The new concrete grain elevator of the Southern Pacific railroad at Galveston, Texas, is finished at a cost of \$500,000. The elevator has a capacity of 1,000,000 bushels. It is one of the largest and most modern in the South, and will be turned over to the owners on July 25. In the meantime it is being

thoroughly tested by the James Stewart Construction Co., the contractors.

As a result of the endeavor of the Chicago Chamber of Commerce to beautify the loop district of the city, a large number of concrete urns and flower boxes have been put to use for the growing of flowers and shrubbery. At present it is estimated that there are 5,000 feet of flower boxes, a large percent of which are of concrete.

The establishment in Billings, Mont., of an up-to-date cement paving and roofing plant is promised by the visit of W. Ryan, of Cheyenne, Wyo., manager of the Pioneer Paving and Roofing Co. of that place.

The demand for concrete silos in Texas is unprecedented. The erection of these great live stock feed-stuff canneries is not confined to any particular section of the state. Even the ranchmen of western Texas are building batteries of them in order to provide winter feed for their live stock. The movement for the construction of concrete roads in Texas and the Southwest was given an impetus in El Paso recently by an illustrated lecture which was delivered in the Chamber of Commerce room by A. M. Bowles, representing the Portland cement manufacturers' association.

A remarkable piece of reinforced concrete work is the jetty at the Port of Alexandria, Egypt. The entire construction has a total length of 350 feet, and is made up of a series of caissons, in reinforced concrete which are floated into place in the sea. Such caissons are five in number and measure 66 feet long by 26 feet wide and 20 to 22 feet high, and are built on the Hennebique system.

Kahl & Sons' cement block and brick works at Oakland, Md., is working at its full capacity.

The Adell-Cortright Concrete Pipe Co., San Francisco, Cal., was the successful bidder for 2,700 feet of 18-inch and 2,000 feet of 20-inch cement pipe to be used in the irrigation system of the Post Card ranch near Corcoran, Cal.

The Builders' Stone Products Co., Chicago, has changed its name to the National Ox-hydric Co.

G. E. Fonner & Co., of Highland City, W. Va., are operating a cement-brick factory, and are now prepared to manufacture porch columns, steps and a large number of designs in artificial stone. They report the outlook for business in their line very good and have a good bunch of orders to begin with.

The scope of the Billings (Mont.) Artificial Stone Co. is extended to include contracting and construction work by an amendment to the company's articles of incorporation. It is announced the company will hereafter do all kinds of contract work, including excavating. The stockholders are Phillip Wesch, William Berry and Roy M. Balyeat. The company has a paid-in cash capitalization of \$8,000.

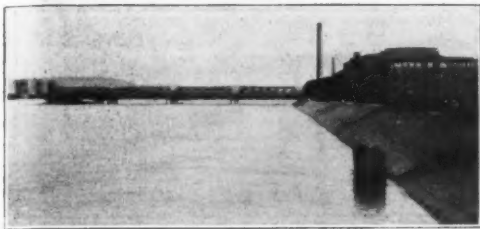
Kaw River Rebutment.

The Kaw Valley Drainage Board, which is superintending the protective work along the Kaw river in Kansas, is firm in its belief that the concrete slab rebutment along the banks of the Kaw river



MOUTH OF THE KAW RIVER SHOWING CONCRETE REVETMENT.

and the willow riff-rafs that have been woven in the stream were all that saved the towns along the river from being flooded. For many years the water has been washing away the bank of the stream and gradually eating its way into the business houses of each city situated upon its banks. Up the stream it has long been the custom for the small towns to be almost annually covered with



RIVER BANK PROTECTED BY CONCRETE REVETMENT.

from one to 12 feet of water, caused by the backing up of the waters in the Kaw river, often due partly to the rise that annually occurs in the Missouri river.

To date more than \$1,400,000 has been spent by the state and the drainage district (wholly in Kansas) in building protections along the banks of the



WHERE FLOODED KAW RIVER ATE UNDER THE CONCRETE.

stream in the way of dikes, concrete rebutments or aprons and woven willow riff-rafs. W. E. Callahan, of Omaha, Neb., was the first general contractor on the job, and he sublet the contracts for placing the concrete work along the banks. The Mun-Reise Construction Co. is now busy at the river mouth laying more concrete and weaving the willow riff-rafs at \$1 a yard.

The recent rains caused considerable trouble along the river where this work is still in progress, and in some places water rose over its banks. The concrete, where it terminates up the stream, was washed up in some places by the water getting in under it. The construction company found it almost impossible to work with the willow riff-rafs when the flood waters were up last week. It is said that the concrete aprons along the banks of the Kaw are the only things that saved the sheep pens at the stock yards in Kansas City from being washed away. As it was, the water rose to within a few feet of them, but was carried on out into the Missouri river safely.

NEW INCORPORATIONS.

Frank R. White Mfg. Co., Washington, D. C.; capital, \$1,000,000; J. W. Galloway, president, Strathmore Park Heights avenue extension, Baltimore, Md.; to manufacture concrete railroad ties.

National Concrete Bridge and Culvert Co., Tecumseh, Okla.; capital stock, \$25,000; incorporators, E. L. Rosebush, Tecumseh; W. C. Furr, Tecumseh; Sidney Suggs, Ardmore, and S. A. Douglas, Ardmore.

Granite Concrete Block Co., Ltd., Toronto, Ont.; capital \$40,000; J. A. Livingston, R. Robinson, M. Robinson and V. M. Livingston; deal in cement blocks, burial vaults and other cement products.

The Home Builders' Cement Products Co., River Rouge, Mich.; capital, \$5,000.

The Wisconsin Hydro-Stone Manufacturing Co., Milwaukee, Wis.; capital, \$25,000; incorporators, Charles Marnitz, Robert J. Barth, Bernard Doos.

Manchester Cement Products Co., Manchester, Iowa; capital stock, \$1,000; incorporators, C. K. Reading, W. L. Davis and C. J. Hockaday.

McHenry Artificial Stone and Construction Co., McHenry, Ill.; to manufacture and sell artificial building stone, etc.; capital, \$2,500.

Hercules Concrete Machinery Co., Indianapolis, Ind.; capital, \$25,000.

Jackson Vitriified Stone Co., Jackson, Mich.; capital, \$10,000; Jay Lynch, president; T. S. Pierce, vice-president; C. W. Martin, secretary and treasurer.

CONCRETE FLOOR FURNISHES PLAYGROUND ON RESERVOIR.

The City of Reading, Pa., has utilized some of the space that is wasted in most of the cities of the country. The great reservoirs in which the supply of water is stored are usually left uncovered. In Reading, however, this space has been used. The reservoir has been covered with a cement floor and turned into a playground for the grown-ups as well as the children of the city.

The cement floor is smooth and makes a splendid roller-skating rink in the summer, and when the frost comes it is flooded and allowed to freeze for ice skating. There are two summer houses erected on this reservoir, giving shade from the sun.

This might solve the problem in a number of places where a playground is needed.

CEMENT GUN EXPERIMENTS IN HOLLAND.

Our Holland correspondent writes that recently experiments have been taken by Palingkop & Co., of Zoetermeer (Holland) with a so-called cement gun on a few concrete retaining walls which needed repair. Dry sand and cement were mixed on a platform, and when this was done carefully it was put into a machine, containing compressed air, careful attention being paid that no old material was used or the sand being wet.

In explaining the use of the gun the correspondent says: "The operator holds two different lines, one connected with the gun and through which the sand and cement mixture is blown, while through the other the water is pressed. The ends of the hose lines are held together in a nozzle. Now, the remarkable thing is that the material is delivered dry through the machine into the nozzle and that the necessary quantity of water for hydration is added when the mixture is spouted out. The hydration takes when the material reaches the air. As mentioned, the water supply is carried through a separate hose line and its pressure is regulated by the operator, with the help of a little handwheel valve made at the nozzle. The water pressure must be at least from 15 to 25 pounds stronger than the air pressure. The hoses must be made of soft rubber backed with canvas as, on account of the sharp sand blown through it, it suffers a good deal. Steel pipes have proved not to give satisfactory results. It is necessary that the man holding the nozzle be a skilled workman, as the success of the work greatly depends on him. The experiments taken met with great success, and it is expected that the Government railroad will take this matter up in connection with repair of concrete pillars of viaducts, etc.

MAY USE CONCRETE ON BATTLESHIPS.

New York, N. Y., July 19.—Naval construction experts from various parts of the country are gathering at the Brooklyn navy yard to inspect the result of an experiment begun a year ago when Portland cement, instead of wood, was employed in backing up the armor plates of the battleship New York, now in dry dock in Brooklyn. So far as is known the experiment has been successful, but a definite conclusion will be reached when all

the plates have been removed at the time the naval board inspects the backing.

Portland cement men are interested in the outcome of this experiment. If cement backing proves successful it will be the means of opening up still another use for this commodity and its application will be followed in the construction of other large ships for stabilizing purposes. There is more possibility of self healing of hull wounds by the use of Portland cement backing than when wood is used, according to information given to ROCK PRODUCTS AND BUILDING MATERIALS. It also offers a better resistance to high-power shells because it offers a non-splintering substance and supports the back of the plates better than crushable wood. In making temporary repairs at sea, Portland cement can be carried in reserve with greater facility and it is easier to lay than wood.

SECOND CONCRETE ROAD CONFERENCE.

The Second National Conference on Concrete Road Building is to be held at the Auditorium hotel, Chicago, Feb. 15-18, 1916, which is during the week of the Ninth Chicago Cement Show.

Following the precedent of the first conference, committees have been appointed, 17 in number, to make special studies and present reports on the various phases of concrete road, street and alley construction. Each committee is composed of four or more prominent highway engineers, contractors, professors of highway engineering in leading universities, or others of national prominence in the highway field.

The conference is under the management of an advisory committee of about 65 prominent commissioners, engineers, contractors, university professors and representatives of other important interests. The committee has for its officers the following: Chairman, W. F. M. Goss, Dean College of Engineering, University of Illinois; Secretary, J. P. Beck, 208 South La Salle street, Chicago.

A CONCRETE ROAD ON PILES.

About one-half of the concrete work on the Yolo by-pass, which will carry the California state highway over the tule swamp of Yolo county, has been completed. The by-pass is 16,168 feet long, and 13,850 feet of this is built entirely of reinforced concrete. A total of 2,928 concrete pipes from 32 to 50 feet long and containing a total of 8,984 tons of concrete will be driven. These will be placed in bents of four piles each with 19 feet between the bents. Upon these piles will be placed concrete slabs 20 feet long by four and one-half feet wide and weighing six and one-quarter tons each. The roadway will be 21 feet in the clear with a 15-inch wheel guard on each side. Above the wheel guard a three-inch pipe railing extends the entire length of the by-pass.

STANDARD CONCRETE CO. DISSOLVES.

A final order of dissolution has been issued to the Standard Concrete Co., which was formed to make concrete blocks and other concrete articles. It had a factory at Fairview, N. Y. The company was incorporated for \$30,000. Directors were William Knaus, Gottlieb Barrett, James Meyers, Joseph H. Collins, Karl Burger, George F. Dobler, Warren G. Cowee, Joseph T. Neal and Everett H. Travis. Ralph S. Butts and Charles J. Corbally were attorneys for the directors. Harold J. McGee was appointed permanent receiver.

MID-WEST PROCEEDINGS PUBLISHED.

The proceedings of the tenth annual convention of the Mid-West Cement Users' Association, which was held at Hotel Rome, Omaha, Neb., last March, have been put into book form and distributed to members of the organization.

CEMENT

Sales Conferences Needed

In an interesting interview with the president of a Portland cement company operating in the Lehigh valley, the question of holding sales conferences was discussed at length and brought to light this particular manufacturer's views on the subject and at the same time his opinion of present conditions and how to correct them. His main argument is based on the fact that wherever production is greater than consumption, the price is bound to be low. To illustrate this point, the accompanying simple sketch was quickly drawn and is presented herewith, in connection with his arguments.

"What is most needed in the Portland cement industry of the Lehigh valley is ordinary, plain horse sense, which for the past six or eight months has been 100 per cent below par," declared the manufacturer.

"The Lehigh valley has a productive capacity of 35,000,000 barrels. The shipments of cement in the Lehigh valley for 1914 were about 24,000,000 barrels, which leaves a surplus capacity over shipments of 8,000,000 barrels or 33 1/3 per cent more capacity than shipments. The total amount shipped during the best year of the cement industry in the Lehigh valley was about 27,000,000 barrels, still an increase of capacity over shipments of 5,000,000 barrels. In the years 1908, 1909, 1910 and 1911 the average production of the Lehigh valley was 25,513,519 barrels. Of course, this embraces the New Jersey district. The average shipments have been considerably less.

"The larger companies want to run 100 per cent, whereas the smaller companies do most of the curtailment of production, due entirely to the fact that they do not have storehouse capacity enough to take care of the excess. Some of the larger manufacturers go around with a 'chip' on their shoulders and get as mad as the dickens because they see a smaller manufacturer who makes 600,000 to 1,000,000 per annum, running full. The larger manufacturers want to sell from 6,000,000 to 7,000,000 barrels a year in congested territory, and the smaller fellow wants to do the same; the consequence of which is that the Dutch and the Irish get mixed up and the result is 60 cents bulk at the mill. Some of the larger companies' prices were as low as 52 cents per barrel, in competition with the Hudson river mill. This is fine business; and your article on 'Sales Conference Needed' is a most excellent proposition to take the whole question to the Trade Commission.

"This little sketch is, in my mind, the most comprehensive I know of to explain what I mean. It goes back to the basic principle, which has been in existence since the creation of the world; namely, when your production is greater than your

consumption, your price necessarily must be low; but, when your production is less than your consumption, your price necessarily must be high. The principle as stated above is the principle of all trade the world over, whether in the cement business, the newspaper business or any other kind of business.

"The history of the Portland cement industry shows that from the first of April of any year to the fifteenth of November of the same year, Portland cement manufacturers can ship all the cement they make during that period. It is the periods of from Jan. 1 to April 1 of every year that make the surplus stock; and I have experienced, over a period of 14 years, that when the stocks on hand

Price

Consumption

Production

in the United States are greater on the first of May than they were on the first of January the price of cement has invariably dropped, due entirely to excess production from Jan. 1 to April 1. And, vice versa, when the stocks on hand the first of May are less than they were on the first of January, the price has invariably advanced, and the year following has invariably been a good year in the Portland cement business, because it follows out absolutely the statement in regard to production, consumption and price.

"Now, the proposition made above may be illegal according to the Sherman law or the Clayton law; so, it seems to me that the suggestion of a 'Sales Conference Needed' is a most excellent one. There should attend this meeting only the truthful members of the industry; that is, if permitted to hold the meeting by the Trade Commission. It is the president of the company who holds the bag, and his job is to raise the necessary amount of money to pay wages, taxes—income tax, war tax, state tax, school tax, road tax—and also the necessary amount of money to pay into the Association of Portland Cement Manufacturers. Therefore, I think he should be the one to attend the meeting."

Lehigh Employees Given Outing

Employees of the Chicago office of the Lehigh Portland Cement Co. were given their first annual outing on July 14, at the Wilmette Country Club, which was hired for the day.

A special train was chartered and the employees were taken at noon over the Northwestern elevated road to the club, where a buffet luncheon was immediately served. The afternoon was given over to enjoyment and in addition to golf, tennis and croquet, there were a number of games, including relay races for men and women, nail driving for women, pipe race for men, thread and needle race for men and women, ball throwing for women and tug-of-war for men. After the games, dinner was served and prizes to the lucky winners were distributed by A. Y. Gowan, vice-president and general manager of the company.

Friends of the employees arrived during the evening, which was devoted to dancing. At midnight another special train carried the merry-makers to their homes.

One of the prominent features of this particular outing was the visible democracy which exists in the Lehigh administrative and working forces. Every employee of the Chicago office, from the vice-president to the porter, attended the outing.

Messrs. Chittenden and Wilcox constituted the committee on arrangements, and genial "Larry" Dauback was master of ceremonies, assisted by Messrs. Zimmerman and Baer. Mr. Brown was assigned the duty of starting the races, with Messrs. Baer, Schneider, Dreher and Miss Anderson as judges, while Mr. Wilcox was the official scorer. Mr. Schneider was in charge of transportation and Messrs. Rasmussen and Green were in charge of baggage and properties. The dancing committee was made up of Misses Mease, Bernero and Kenner and Messrs. Gallagher, Schneider and Silvester.

Attractive folders containing athletic events and dance program were supplied every attendant at the outing and taken home as souvenirs of the first affair of this nature held by the Chicago office. The outing was a decided success and as a result will be held annually hereafter.

SANDUSKY CO. MOVES TO CLEVELAND.

The general office of the Sandusky Portland Cement Co., which has been located in Sandusky, O., since the organization of this company, will be moved to Cleveland, O., about Aug. 1, 1915. The Cleveland office is already the headquarters of the treasurer, secretary, assistant manager and directors, and will now be combined with the offices of the president and general superintendent, and the sales, publicity and accounting departments. All will be located in the Engineers' building.



CHICAGO OFFICE EMPLOYEES OF THE LEHIGH PORTLAND CEMENT CO. IN FIRST ANNUAL OUTING AT WILMETTE, ILL.

Demand for Cement Continues to Increase

Reports from cement plants in various parts of the country to the office of ROCK PRODUCTS AND BUILDING MATERIALS indicate a substantial increase in the demand for Portland cement and the recent action of Eastern manufacturers in advancing the price another 10 cents per barrel on July 15 substantiates these reports. In some districts, business is far better than last year. The last advance brings the Lehigh valley mill price up to 90 cents per barrel.

The price at all basic points in the West has been raised to correspond with the advance recently announced by the leading cement manufacturers. Reports are to the effect that this advance has also been announced in the Kansas district.

The recent strike in Chicago and the hardships suffered by farmers in the Central West as a result of the foot-and-mouth disease epidemic has had a tendency to temporarily retard the growing demand for cement in the Central and Western states. On the other hand, Eastern and Southern reports are to the effect that public improvements, road work and farm structures, as well as city demands, are calling for equally as much if not more cement than at this period last year. The pulse of the principal cement producing companies is reflected in the following reports:

St. Louis Portland Cement Works, St. Louis, Mo.:

The cement business in this part of the country is slowly but steadily increasing in volume.

Wolverine Portland Cement Co., Coldwater, Mich.:

We find that while country orders are light general contract paving and road work is good. Both of our plants are running to capacity.

Lehigh Portland Cement Co., Allentown, Pa., and Chicago, Ill.:

The trade in the East is holding down in fine condition. In the Central West the big centers are making a poor showing but the country trade is fine. We are very optimistic regarding the next three months' business, which we believe will break all records. The weather has delayed contracts under construction and harvesting by farmers. The next three months should show an improvement in the contracts and a big demand for use in agricultural districts.

Marquette Cement Manufacturing Co., Chicago, Ill.:

The cement business in Chicago and the Central West has not the energy that it should have. In Chicago the strike has tied things up badly the past three months and throughout the farm districts rains and the foot-and-mouth disease have had their effect.

Universal Portland Cement Co., Chicago, Ill., and Pittsburgh, Pa.:

Business has been fair and right now we are close to last year's record. The sales for this month are about even with last July and the shipments are ahead of the sales, due largely to the filling of contracts which have been previously ordered.

The Chicago Portland Cement Co., Chicago, Ill.:

The cement business at the present time in the Central West is a little slow. Future business is entirely dependent upon the corn crops, which will mature from two to three weeks later than usual. About the only thing we need now to make the cement industry of this district active in the next month is plenty of sunshine and hot nights. If this is procurable corn should grow at a rapid rate and give the farmers an opportunity to gather in large harvests.

Northwestern States Portland Cement Co., Mason City, Iowa:

Business with us is in a very satisfactory condition. Our plant is kept busy, producing to capacity.

Chinchfield Portland Cement Corporation, Kingsport, Tenn.:

We can frankly state that the demand was never better than it is today, especially throughout the Carolinas and the small part of Virginia that we serve. We are running our mill to full capacity, and it is hard for us to keep up with the orders as they come in. Our shipments are 50 per cent better than they were at this period last year, and the prospects for a continuation of this demand is exceptionally good. The city and county improvements that are going on within our territory is very encouraging, and the increasing demand for concrete streets and concrete highways bespeaks for the cement industry a very heavy demand throughout the South for years to come.

Standard Portland Cement Co., Birmingham, Ala.:

Shipments for June were 50 per cent ahead of last June, and for first six months of the year shipments are 35 per cent ahead of any similar period. The Standard Portland Cement Co. continues to break records on shipments from the big plant at Leeds, Ala. Each month this year has shown an increase over the corresponding period last year of from 25 to 55 per cent.

For the six months ending June 30 shipments are 35

per cent ahead of any corresponding period. This is rather a remarkable showing considering the fact that there are no large projects under way this season. Practically all of this material is shipped out on miscellaneous orders. As a matter of fact, the South is fast becoming to realize the advantages of permanent construction. Southern farmers are using more cement in building silos, dipping vats, fence posts and for farm buildings generally. Large quantities of cement are being used in construction of concrete highways. The Standard Portland Cement Co. has recently secured several large contracts, shipments on which have just started. Contracts for 50,000 barrels have been closed for the \$2,000,000 cotton warehouse at New Orleans; 10,000 barrels for the new armory building at Jacksonville, Fla.; 15,000 barrels for a concrete highway at Nashville, Tenn., together with several similar contracts in Alabama, Georgia, Mississippi and Louisiana. At Birmingham the company is furnishing at present its product for the new refrigerator plant which is being constructed by the Herndon-Hettrick Engineering Co.

William G. Hartraft Cement Co., Philadelphia, Pa.:

The cement business in the Eastern part of the United States, both North and South, has been of larger volume during the past year than it was during 1914. This would indicate, in our judgment, that the railroad companies are doing more work, and also that the small users in rural districts are increasing very fast. This great demand has been somewhat of a surprise to the manufacturers, and it has automatically strengthened prices, with the possibility of prices going still higher as the heavy fall demands come on.

Tidewater Portland Cement Co., Baltimore, Md.:

The cement industry in general is just recovering from a very bad slump in prices. The demand for Portland cement in general is holding its own, as compared with the year of 1914, in this section, as indicated by the fact that 85 representative cities taken in the territory of the Tidewater Portland Cement Co. shows that in the first five months of this year, as compared with the first five months in last year, a decrease of only 1.1 per cent in the building permit values in the various cities named, and, taking the United States as a whole, from a number of the representative cities, shows a decrease of 7.2 per cent for the same class of work. The Tidewater Portland Cement Co. is operating both its cement and lime plant at full capacity and securing a satisfactory outlet for the same. We are anticipating a heavy fall demand both for lime and Portland cement.

Cement Plant for Houston, Texas.

The Texas Portland Cement Co., of Dallas, has let contracts for the construction of one of the largest cement mills in Texas, to be erected at Harrisburg, on Buffalo Bayou, between Houston and Galveston, where oyster shells which have banked up on Redfish Reef in Galveston will be ground into Portland cement. Seventeen acres of land have been secured by the company and construction work is to start at once, according to F. R. Bissell, president. The plant will have a capacity of from 300,000 to 400,000 barrels annually.

Mr. Bissell said that his company has been experimenting with oyster shells for several years and, through the assistance of scientists in Europe, a plan has been evolved whereby the shell can be converted into cement. The Harrisburg-Houston plant will be the only one of its kind in the United States.

The largest cement mill in the Southwest is located at Dallas and is the property of the Texas Portland Cement Co. Water competition has made shipment of cement from Dallas to Gulf Coast territory impracticable, Mr. Bissell said, and it is planned to get control of this business through the mill at Harrisburg.

Transportation Facilities Largely Responsible.

The decision of the Texas Portland Cement Co. to locate a plant in Houston was influenced largely by the opportunities offered by the ship channel at that point. The export business available in Central and South America was given consideration and it was believed that much might be secured by making use of the channel. The company also desired to place itself in position to better serve its patrons in the Southern territory.

The plant of the Atlantic Portland Cement Co., at Stockerton, Pa., one of the largest cement plants in the country, is rapidly nearing completion, after having been only partly finished for the past four or five years.

What the Manufacturers Are Doing.

The Atlas Portland Cement Co., which is planning the construction near Tippecanoe City, Ohio, of a million-dollar cement plant, is asking the permission of the county commissioners to cross several highways at grade with switches designed to connect the new plant with the railroad. Some changes in the route of the switches, in order to enable overhead crossings, have been suggested, but there is no doubt about the company's ultimately being afforded every facility for the desired railroad connections, as its potential value to the community as a large and desirable industrial concern is fully recognized.

The Portland Cement Co., Dallas, Ore., has raised funds for the installation of equipment at plant at Oswego, Ore., and will shortly receive bids.

The new plant of the Carolina Portland Cement Co., in Calliope street, near the I. C. railroad, New Orleans, La., was opened auspiciously recently. The building is of steel construction with a mezzanine floor arrangement and has a storage capacity of 20,000 square feet. Besides the building, the plant includes a large storage yard and switch track.

The Building Material Exchange of New York City received word July 15 that on the first of August the Penn Allen Portland Cement Co. would sell direct to the trade, instead of through the William G. Hartraft Co., of Philadelphia, which has handled its products for a great many years.

Now that the price of Portland cement in New York has reached a 90-cent mill base, it is expected that the Edison Portland Cement Co. will resume operations at its plant at New Village either through its own initiative or through the instrumentality of the Hager interests.

The Castalia Portland Cement Co., Castalia, Ohio, recently resumed operations with an increased capacity of 25 per cent. The concern purchased two rotary kilns from the bondholders of the People's Portland Cement Co., at Sandusky, which were installed and are now in operation. These rotaries are about 125 feet long and eight feet in diameter.

The Universal Portland Cement Co. has secured the contract for between six and seven thousand barrels of cement to be used in paving 20 blocks in the city of Mankato, Minn.

The Iola Portland Cement Co.'s plant at Iola, Kan., closed down for repairs July 1. The cement warehouse will not close and the 150 men employed there will remain on their jobs. "August 1 we will be back at work," said Superintendent John Norvig.

The California Portland Cement Co., Colton, Calif., has spent about \$1,000,000 in enlarging its plant since April 1, when it received the contract for cement and rock from the county highway commission. More than \$150,000 is being expended in the building of a gigantic rock crusher. It is expected that 75 to 100 earloads daily will be handled by Sept. 1. The concern recently purchased 100 acres of citrus fruit land from growers who were suing the company because of the settling of dust on the fruit. General Manager T. J. Fleming has invented a dust eradicator with which to fan the atmosphere of the cement discharge, which has been pronounced by experts and has proven in practice to do the work for which it was designed. The initial building that is to house the machinery is nearing completion and a new steam railroad line is being constructed.

Predicts Stiffening of Cement Market.

New York, N. Y., July 19.—Prices of Portland Cement in this district moved up 10 cents July 15. This makes the Lehigh valley mill price 90 cents, the level ruling when the price cutting war developed early in the year. Another advance is expected before the first of October. The advance effective the middle of this month fulfills the pre-

diction made in ROCK PRODUCTS AND BUILDING MATERIALS two months ago.

Predictions that prices will advance still further are based upon investigations now being made by representatives of the Hager Portland Cement Co., in the Hudson and Lehigh valleys. For some time Portland cement manufacturing economists have been visiting Eastern Portland cement plants. The visits have been made for the purpose of studying different methods of manufacturing with the idea of establishing, as far as possible, the actual cost of producing cement in the zones supplying the New York market. By comparing methods employed by different plants, it may be possible to determine once and for all time just what the minimum selling price of this commodity should be in New York and surrounding districts.

It is apparent that if it can be established beyond peradventure that Portland cement cannot be made at a cost of less than 90 cents mill and give the manufacturer any kind of a profit, there will be ample cause to inquire why prices should be cut as they have been in the past. The following statement was made, showing the trend of conditions in the trade and indicating the reasons why Portland cement will quickly recover its former price and pass beyond it:

"There was received from one source in France last week an inquiry for 3,000,000 barrels of a certain brand of Lehigh valley Portland cement. This week another inquiry from the same country, but from a different source, called for quotations on 1,000,000 barrels of Portland cement of another make. There are likely to be big demands for cement for road construction in New York and New Jersey within the next quarter that will develop further drains upon Lehigh valley mill capacity. Note that no consideration is here taken for a possible development of the building situation in the New York Metropolitan district.

"June shipments out of the Lehigh valley district this year were in excess of normal by five per cent. The last of the business taken at the old \$1.23 spring cut-price rate is now being shipped to purchasers. When this is completed, look out for further advances in prices for Portland and also for Rosendale natural, which is now quoted at 90 cents. The Lehigh shipments to this district during June were six per cent above those for May, or approximately 18 per cent over the total shipments for June of last year.

"On July 1 there was less than one-half the amount of cement on hand in the Lehigh valley district than there was at the same time last year, despite heavier production. Some firms did not shut down at all over the July 4 holiday, as is customary, and Philadelphia headquarters have made it known that they expect the cement industry to have a greater volume this year than has ever before been known.

"These are big statements to make, but they are true. There is practically no reserve cement in the Lehigh valley today that is not sold or held for special order. It is apparent that with practically all the valley capacity now employed, no mill will voluntarily continue to manufacture at a loss, and even with the current business now running, the introduction of two further developments, that of increased building construction and the European and South American export business, the demand alone, without manipulation, will necessitate prices at least as high as those prevailing before the price-cutting war. By Oct. 1 road contracts and the further development of building construction will give us a manufacturing tenseness that will make a price above 90 cents mill absolutely necessary.

"The Hager Portland Cement Co. will not add to existing capacity by the construction of new plants. It will make better use of plants already established but not now operating to efficiency. Therefore the introduction of this new factor in the cement world will help bring about better prices

instead of lowering them, because it will have the manufacture of high-grade cement reduced to the lowest possible cost, and whether deliberately or not it must of necessity serve as a sort of monitor to protect the industry from cutting tactics that have existed heretofore."

E. F. Burchard, of the United States Geological Survey, says that the rate of production of Portland cement in this country during the last three months has gradually increased. Although there are no statistics available for the first half of the year, it is believed that no appreciable loss or gain has occurred compared with the corresponding period of the preceding year. It is his opinion that the next six months will show improvement over the first half of the year, which bears out, in a more conservative way, the statement of ROCK PRODUCTS AND BUILDING MATERIALS' informant.

ADVERSE DECISION IN CEMENT DUST CASE.

Riverside, Calif., July 19.—Judge F. E. Densmore early this month filed his decision in the case of Robert M. Bridson vs. the Riverside Portland Cement Co., which entitles the plaintiff to \$1,000 damages and granting an injunction "perpetually restraining the defendant company from so operating its cement factory as to discharge into the air and from thence upon the plaintiff's premises any cement dust or other calcareous or silicious dust emanations in any quantity or amount whatsoever."

The case occupied many weeks in the superior court here during the months from November, 1914, to March 26, 1915.

As a test case for about 40 plaintiffs who have similar actions pending against the cement company, the decision is of momentous interest.

The filing of this decision does not mean that the injunction against the cement plant becomes immediately effective. Thirty days are given under the law for the plaintiff's attorneys to prepare their "findings of fact," after which the defendant's attorneys must prepare their exceptions to the findings, and these matters must be disposed of before the judgment is finally rendered.

There is little doubt but that the case will be carried to the state supreme court upon appeal just as soon as it can be done. In the meantime the plant has a supply of clinker on hand sufficient to carry it for six months or a year in the manufacture of cement without necessitating the further operation of the kilns. So even should the injunction become effective before an appeal can be secured, it would not mean the closing down of operations at Crestmore.

PLAN TO MANUFACTURE CEMENT IN BRAZIL.

A government concession to use certain large deposits of shells in the Bay of Bahia, suitable for use in the manufacture of cement, is held by two residents of Bahia, Brazil, according to Consul Robert Frazer, Jr. They have studied the feasibility of erecting a cement factory and have had the materials they propose to use and some cement made experimentally from those materials analyzed, claiming very satisfactory results. They believe that a product equal in every way to the best imported cement could be made there for \$2.50 or \$2.75 per 180-kilo barrel (396.83 pounds), as against the minimum cost in normal times of \$4.32 for landing an ordinary grade of foreign cement, duty paid.

Their idea includes the erection of a factory in a small harbor opening off the large Bay of Bahia, at a point where steamers can approach to within 100 feet of the shore. Near this site are great deposits of sea shells, mixed with coral, and an especially suitable clay. One of several beds of these shells is one and one-half miles long by three-fourths of a mile wide, and has been tested to a depth of seven and one-half feet. It is exposed at low water and the shells could be brought the three miles to the factory site at a very small cost in lighters or native sailing craft.

MINORITY STOCKHOLDERS OPPOSE CONSTRUCTION OF NEW PLANT.

El Paso, Texas, July 19.—The application on the part of the minority stockholders for an injunction against the Southwestern Portland Cement Co. to restrain the latter from building a cement manufacturing plant at Victorville, Cal., has been granted by Judge Dan M. Jackson of the district court here. The suit was filed by W. B. Latta, J. A. Happer, C. W. Wilcox, Crawford Harvie, Christine Garlick, Ida Bishop and E. B. Neff, all of whom are stockholders in the company. The petitioners claimed that the surplus of the cement company, amounting to \$100,000 "more or less," should be paid on the preferred stock issued and outstanding. The petitioners also ask for a complete accounting.

It is charged by Carl Leonardt, president of the Southwestern Portland Cement Co., that another cement company is behind the efforts of the minority stockholders to prevent the erection of the plant at Victorville. "Our stockholders are getting dividends regularly at the rate of eight per cent per annum," he said, "with an additional two per cent as back dividends, which equals 10 per cent."

"The Victorville plant, when it is erected, will belong to the Southwestern Portland Cement Co. Its main offices will be in El Paso, and the value of the company's present stock will be increased by the erection of that plant. I could have built the Victorville plant as an independent enterprise but I did not want to have two competitive plants in which I was interested. I was offered \$125,000 more for the Victorville site by other companies than the price at which I turned it in to the Southwestern Portland Cement Co. I had chemists there for two years making analysis of the rock, all of which I paid for out of my own personal funds."

ENGLISH CEMENT INDUSTRY SUFFERING.

There have been marked decreases in English imports and exports of cement for building and engineering purposes during the past few months, as compared with the corresponding periods of 1914. The details for the month of May are given below:

	Quantities.		Value.	
	1915.	1914.	1915.	1914.
Imports	108	12,018	1,386	15,043
Exports	45,485	49,744	80,761	88,369

Comparative figures for the first five months of the year are:

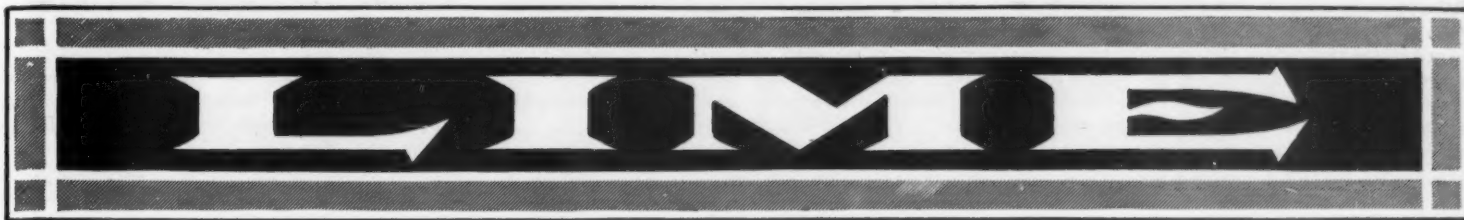
	Quantities.		Value.	
	1915.	1914.	1915.	1914.
Imports	1,313	47,093	5,664	60,708
Exports	219,956	275,355	392,763	469,708

The following shows the quantities exported to various foreign countries during May, as compared with those exported during the same month of 1914:

Destination.	1915.	1914.
	Tons.	Tons.
Netherlands	644	2,776
United States	13	13
Brazil	9,451	8,097
Argentine Republic	5,448	12
British South Africa	3,148	4,320
British East Indies	17,787	20,368
Australia	2,534	1,421
New Zealand	54	607
Canada	17	538
Other countries	6,402	11,592
Total	45,485	49,744

RUSSIAN CEMENT INDUSTRY DISSATISFIED.

According to "Die Tonindustrie-Zeitung," the situation of most of the Russian cement plants is critical. The huge plants, "Wolynh" and "Asserin" only work three days a week now. The cause of this is that building in the towns has practically come to a standstill. Several plants have received army deliveries, but these factories struggle with financial difficulties. The Russian government refuses during times of war payment in advance and even asks security for delivery in due time. But after the delivery is made it is still very hard to obtain cash payment.



Potash, Lime and the Potato Scab.

BY KARL LANGENBECK,

Of the Lime Service Bureau, Washington, D. C.

In a journey through Long Island collecting soil samples for lime requirement analyses, the writer found that the potato growers of the eastern section were bitterly opposed to liming, though their soils were very acid. The same was found to be the position of farmers in New Jersey. The attitude was based on positive experience that sweetening the soil greatly increased potato scab. Long Island farmers have had the same experience with Canada wood ashes, also a soil sweetener and a potash fertilizer.

The writer was accompanied on this trip by C. G. King, of York, Pa., who actively opposed the farmers' view as an unwarranted prejudice, because in York and Lancaster counties, Pennsylvania, the farmers raise scab-free potatoes on well-limed soils. The same view was held by Mr. Fullerton, superintendent of the Long Island Railroad Experimental Farm, who raised and exhibited at the Mineola and Riverhead, L. I., fairs, fine scab-free potatoes.

In view of the contradictory experience, we resolved to take testimony. It was found that the Pennsylvania farmers, whom Mr. King knew, sterilized their seed potatoes with formaldehyde. The Long Island and New Jersey farmers, interviewed, did not. It was further found that the prize potatoes at the Riverhead fair all showed traces of scab, though insufficient to check healthy development. The upshot of the investigation indicated that sour land checks the development of potato scab more than it hinders potato growth, if the land is otherwise well fertilized. But the average potato crops, under such circumstances, are not more than half those of Europe. The tentative conclusion on the check to scab developed in sour land is confirmed by statements of Professor Coville, of the Department of Agriculture. The result of Mr. King's, Mr. Fullerton's and my inquiries was the suggestion that where the soil was undoubtedly infected with scab this might be controlled by keeping the soil partially sour for some seasons and checked by sterilizing all seed planted, until this fungus pest had died out. On the other hand, potato growth might be encouraged, meanwhile, by partial liming. This being most desirable at present, because the potato is a strong potash feeder and we are forced, through the war, to make our potash resources in the soil go as far as possible. This, as is well known, is in a measure possible through judicious liming. The plan was considered worthy of trial by half a dozen Long Island potato growers and their soils were analyzed for lime requirement and each promised to lime one field to the extent of two-thirds of the lime-need found, sterilizing all the seed planted.

It is gratifying, in this connection, to state that the plan was laid before Dr. Otto Appel, professor of plant diseases at Berlin University and privy counselor to the German Government, who endorsed it. Dr. Appel is now in Washington, a guest of our government, invited to investigate our potato troubles. Since August last he has traveled over all our potato sections on this mission. We are at this time prevented from going fully into his views, as he naturally prefers to complete his report to our authorities and we are equally unwilling to incur any risk of misquoting him. He seemed pleased at the prospect, however, that the lime producers of

this country were interested enough to give intelligent aid to the farmers on this question, and he stated positively that all potato land in Germany was limed and would have to be here, but thought that it would have to be done gradually, as I have herein outlined.

INCORPORATES IN NEW JERSEY.

The New England Lime Co., with an office at East Orange, N. J., and organized in the state of New York with an office at Millerton, Dutchess county, was recently incorporated in the office of the secretary of state at Trenton, N. J. The stated

object of the concern is to sell lime products, and the capital stock is given as \$1,500,000, with 15,000 shares at a par value of \$100 each. Graham Sumner, Alexis P. Bartlett, Ross A. Mackey, all of New York; J. Clinton Walker, of Brooklyn, and others, are given as directors.

According to "Der Ledermarkt," the lime factories of Rhineland and Westfalen, as well as those in United Hanover, have decided to again advance the prices for burned lime during the second half of 1915. In the beginning of this year the manufacturers also increased the price of their burned lime.

A. & C. Stone & Lime Company

75,000 Tons MONTHLY

Macadam Crushed Stone

**For road building and
concrete work**

QUARRIES AT

Ridgeville and Greencastle, Ind.

We are not contractors

**General Office: 17 N. Penn Street
INDIANAPOLIS, IND.**

With the QUARRIES

Efficiency and Economy of Ground Storage

(Fifth Paper)

The accompanying article was prepared especially for ROCK PRODUCTS AND BUILDING MATERIALS by Frank M. Welch, sales engineer of the Webster Manufacturing Co., Tiffin, Ohio.

The series now running on the efficient and economical production, storage and handling of crushed rock, sand and gravel, will discuss in future numbers the various details of operation such as quarrying, crushing, grinding, washing, etc.

It is not with the object of boosting any particular apparatus or method of operation that these articles are prepared, but with the single purpose of developing the fullest information upon the important subjects treated, and wherever a patented article is referred to, due credit will be given.

The series will be continued.

The problem of surplus storage facilities has become paramount with nearly every large producer of washed sand and gravel or of crushed stone. Sand and gravel washing plants cannot operate in freezing weather, yet they have a limited market for more or less material during the winter months in which they can command prices considerably in excess of summer prices. Therefore they must find an economical method of storing large quantities during the operating season and of reclaiming and loading during the cold weather.

The crushed stone producer is confronted by the same problem, but for reverse reasons. He can operate the year around, but his market is so reduced during the cold season that it becomes necessary for him to store all material which is then in excess of his demand, in order that he may run his plant to full or nearly full capacity all winter and thus maintain his minimum cost of production throughout the year.

The utter futility of considering bins of sufficient capacity for one-fourth or one-third of a season's run of material is evident when we realize that the cost of the loading bins is one of the largest items

in the construction of the average crushing and screening plant, where the storage capacity is usually equal to less than 10 hours' output of the plant. The only alternative is to dump the surplus material on the ground as fast as it is produced and pick it up again when someone buys it. However simple this sounds, complications soon arise. It must be dumped where it can be conveniently picked up. It must be picked up where it is possible to dump it. Furthermore, it cannot be dumped promiscuously around the plant lest the loading tracks be covered up or the whole plant be virtually buried. It must be piled farther from the plant than it can be spouted by gravity, in order to be out of the way of loading and daily operations. It must be piled in such a manner that it can be reclaimed. In short, it must be conveyed and distributed. When it is reclaimed, it must be picked up or elevated and usually conveyed again before loading, in which case it is necessary to return the product to the screening plant. Ordinarily, however, the material is returned to the plant in reclaiming, whether it is to be rescreened or not, in order that it may pass through the loading bins and thereby simplify and expedite the loading.

We therefore have the ground storage plant, which, as an auxiliary to the crushing and screening plant and as an equalizer between supply and demand, becomes a vital unit. The cost of installation and of daily operation of the ground storage plant is so small in comparison to these costs in the crushing and screening plant that the efficiency and the returns from the investment are actually in excess of those derived from the main plant.

Since the local conditions and requirements are never alike, there are doubtless as many differently designed ground storage plants as there are plants. Some of these have accomplished results and acquired efficiencies beyond all expectations, some have merely solved their problems, and some would better have been abandoned before they

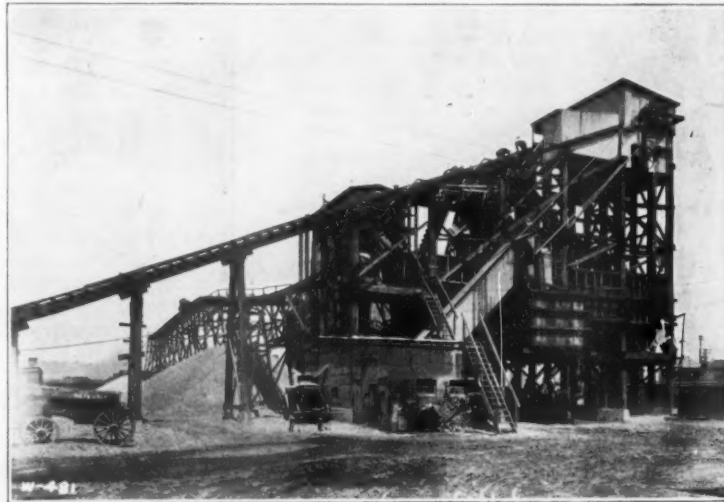
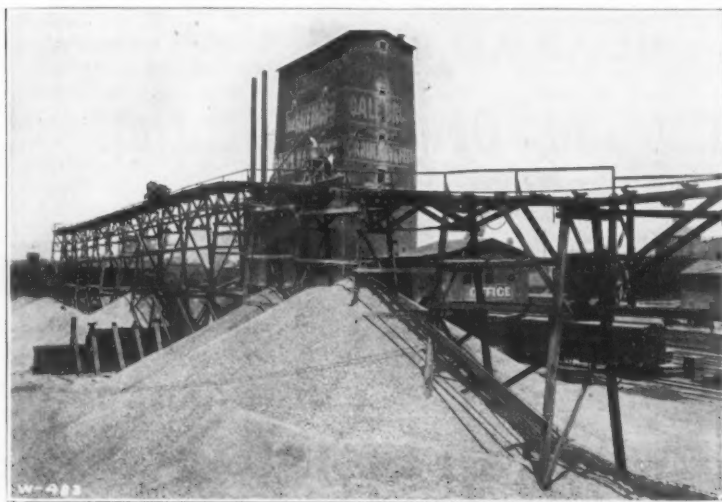
were started. The general principles comprising the successful plants, however, are similar, especially in the matter of storing. The reclaiming has been accomplished in various ways most suited to the environments and the available equipment.

Brief descriptions, outlining the principles which have proved most efficient from the standpoint of first cost and daily operation under a few of the most ordinary conditions, follow:

Storing.

The storing or distributing is invariably accomplished with an overhead belt conveyor. No other type of conveyor or conveyance will handle the material uniformly and with as little cost of operation and upkeep. For crushed stone, where rough edges and sharp corners are encountered, a rubber belt operating over troughing idlers spaced four to five feet apart gives the best service. This belting can be purchased with from one-sixteenth inch to five-sixteenths inch of extra rubber covering on the carrying side of the belt, which greatly lengthens its life of service. Where sand or gravel is conveyed, the rubber belting with the extra rubber covering will give longer service, but the comparative cost of five or six-ply canvas belting is so much less that it has been found in the long run to be less expensive to use the canvas belting for these materials and renew it oftener. If some of the gravel has been crushed, thereby producing some sharp and rough edges, it is a question of experiment as to which type of belt will prove most economical.

The belt conveyor (or conveyors) receives the material directly from the screens at the main plant or from gates in the respective bins, as shown in figure 1. The conveyor usually inclines upward from the bins until a height of 40 to 50 feet from the ground is reached. It then operates horizontally as far as distribution or storage is desired. The material is discharged from the belt conveyor at any desired point on either side by means of a travelling tripper. This tripper discharges the material automatically. Trippers can be purchased



THROUGH THE USE OF BELT CONVEYORS, CRUSHED ROCK AND SAND AND GRAVEL STORAGE SYSTEMS ARE SIMPLY AND ECONOMICALLY INSTALLED.

SAND and GRAVEL

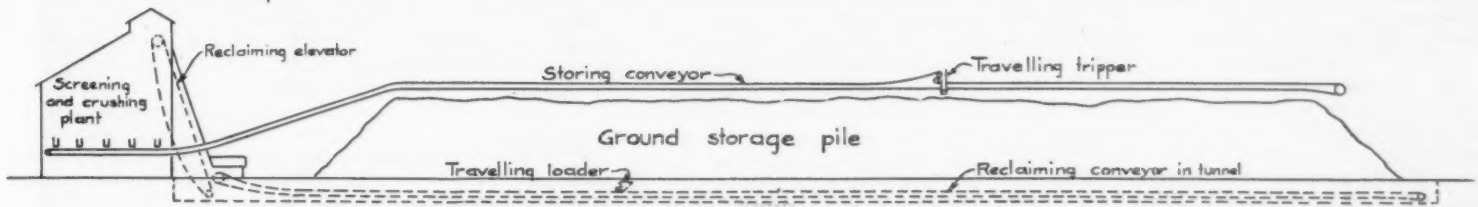


Fig. 1. Side elevation of typical ground storage plant.

which are moved from one discharge point to another either by hand power or by the power derived from the conveyor belt passing through it, which is accomplished by means of a duplex clutch. Trippers can also be bought which travel continuously back and forth between two extremities, reversing themselves automatically and distributing material continuously and uniformly throughout the length of the pile. The above trippers are termed "hand-propelled," "self-propelled," and "automatic."

The next step in modernization is the construction of a tunnel under the storage pile, through which the wagons or trucks are driven, where they can be loaded more quickly and with less expense by gravity through gates in the roof of the tunnel. Although this means of loading is a great saving in the long run, one readily sees that all the material cannot be reclaimed in this manner. Some operators never reclaim the material along the sides which will not flow by gravity through these gates, but leave it there to act as permanent sides or walls for their storage plants, in which case it can be reclaimed should the emergency of shortage of material arise late in the season. Often the tunnels are constructed large enough and suitable for railroad cars. In this event the material around the edges is reclaimed by the wagon trade after as much as possible has been run by gravity into the cars. If the available ground space is limited, timber or concrete retaining walls are built to whatever height is required,

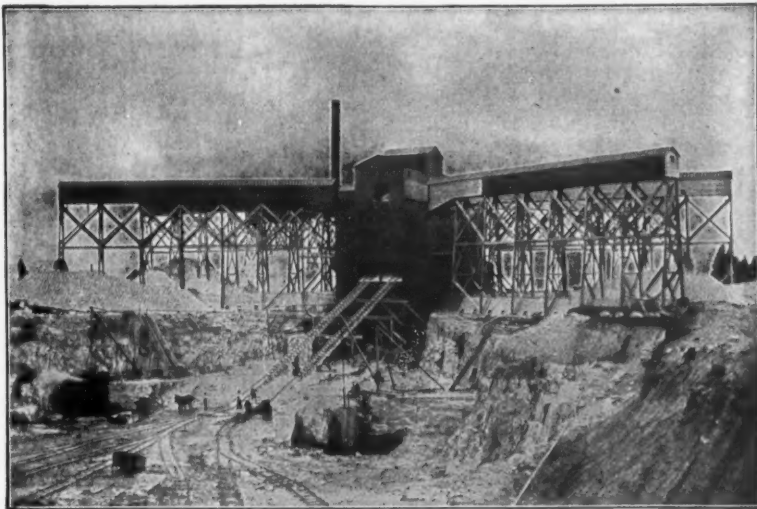
shown in figure 4, made entirely of concrete. These two types serve also as very economical designs for the larger tunnels for railroad cars. Railroad car tunnels should not be less than 15 feet wide with 14 to 15 feet clearance above the rails. This vertical clearance prevents a switch engine from entering the tunnel, yet the cars can be dropped through the tunnel by gravity on a $1\frac{1}{2}$ per cent or 2 per cent grade and picked up by the engine at the other end. If this arrangement is impossible on account of the location of the railroad tracks, a car puller can be installed at a small expense which will handle one car or a train of cars in one direction or in both. The car puller is a capstan operated through gears and a countershaft, and driven by means of a small motor or any available power at hand. A long rope with a car hook on one end and a lead sheave complete the equipment.

Regarding the depth below the ground level that the tunnel should extend, it can readily be seen that the lower it is placed, the more material can be reached by gravity loading. Naturally the excavating makes the deeper tunnel more expensive to construct, but usually, the drainage facilities determine the maximum depth until the roof reaches the ground level.

As stated above, the majority of operators prefer to return all material to the screening plant or tipple after reclaiming and before loading for the purpose of resizing or to facilitate loading. The belt conveyor again asserts itself as the best solution. A tunnel similar to those described above, about 7 feet square, with its roof at the ground level containing a belt conveyor throughout its length does the reclaiming as shown in figures 3 and 4. Sliding or undercut gates are spaced at 10 or 12 foot intervals along the roof of the tunnel. Travelling belt conveyor loaders operate over the belts and are spotted under any gate desired. The loaders regulate the flow of the material onto the conveyor, keeping it continuous and uniform.

At the head end of the conveyor, near the tipple, the material is discharged usually into a continuous bucket elevator which carries it to the top of the plant and either discharges it into the screens, distributes it into various bins, or loads it directly into railroad cars, wagons, or trucks. Figure 1 also shows a typical re-elevating lay-out.

In the larger and more complete plants, two or



PLANT USING DIVERGING BELT CONVEYORS TO DISTRIBUTE STONE TO STORAGE PILES, RECLAIMING FOR SHIPMENT BY BELT CONVEYORS IN TUNNELS.

Comparatively light wooden frames mounted on rigid bents are required to support the belt conveyors, as shown in the accompanying cuts.

Reclaiming.

The simplest type of ground storage plant is found where the market is all local wagon trade and the capacity is too small to justify the construction of a tunnel under the storage pile. In such plants the material is stored by means of an overhead belt conveyor and a hand-propelled tripper, and is reclaimed and loaded into wagons or trucks by hand shoveling or by means of a portable wagon loader, as shown at the left of figure 4.

thus cutting down the dead space, as shown in figure 3. If the plant is not cramped for room, it is found less expensive to let the material form its own limits.

The tunnels may be constructed of wood or concrete, or both. An economical design for a combination concrete tunnel with timber roof is shown in figures 2 and 3. The ends of the timbers are dapped to strengthen the walls against the pressure of the material. The single undercut gate is found most suitable for the discharging of the material onto the conveyor, as it operates much more readily than the sliding gate. Another economical and very serviceable type of tunnel is

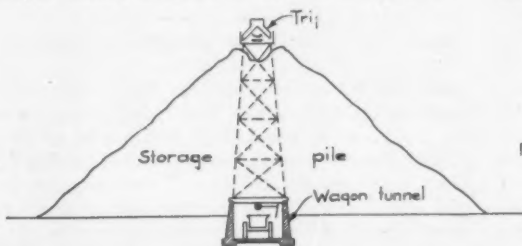


Fig. 2. Cross section.

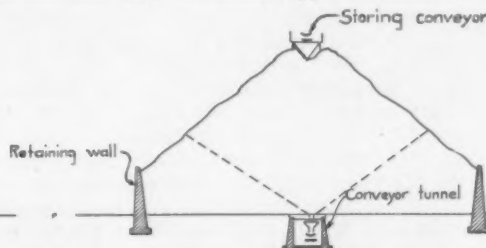


Fig. 3. Cross section.

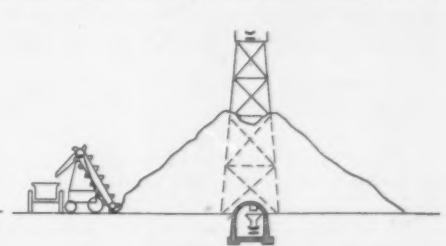


Fig. 4. Cross section.

three tunnels with belt conveyors are installed under the storage pile, thereby cutting the dead sections, not reclaimed by gravity, to a minimum. Still more extensive systems have several of the overhead storage conveyors and innumerable tunnel conveyors, wherein enormous storage facilities are maintained.

The accompanying half-tones show excellent examples of ground storage plants. It will be noted that the overhead storage conveyor is often housed in. This additional expense will pay for itself in a short time in protecting the conveyor from the weather and thereby increasing its life of the belt.

Locomotive Crane.

Not a few stone quarries, as well as sand and gravel plants, are equipped with locomotive cranes fitted with some type of grab bucket, which are used primarily for unloading material from barges, gondola cars, and for similar service, all of which does not keep them continuously busy. These cranes are used extensively for reclaiming from ground storage, and their operation in this capacity creates practically no additional expense since the equipment and the operators are utilized at times when they are not otherwise employed.

The relative arrangement of the overhead storing conveyor or conveyors with the crane tracks, the auxiliary storage piles, and the loading tracks has been a subject of careful study. The outcome has been some very efficient installations, having a maximum storage capacity according to the available space. The extent, to which these problems have reached and the variety of economical systems which have been installed to meet local requirements may probably be best presented in a practical way by descriptions of some of the highest achievements in the newest plants now operating. Former numbers of this journal have contained fulsome discussions on this topic.

Quarry News in Brief.

The Black River Granite Co., of Black River Falls, Wis., has remodeled its plant in several respects and has installed considerable new equipment. An entire new screen, 38 feet long and which automatically deposits crushed granite in the four new bins to any degree of fineness desired, has been installed. The screen has a capacity of 350 yards per day. The new bins are of reinforced concrete. A new track system, running under and beyond the bins, has also been installed. M. J. Finnerty is general manager of the plant.

Owners of stone quarries at Lannon, Wis., recently filed a petition with the common council of Milwaukee protesting against the action of the public works department in substituting sandstone instead of limestone for use in building curbs, taking from them a large amount of business which they had enjoyed for a number of years. Members of the common council committee on streets and alleys made an automobile trip to Lannon as a result of the petition, and finally recommended that the specifications for curbing be changed by the board of public works, so that the Lannon limestone can be used. The Lannon stone interests claimed that their limestone is as good for curbing purposes as the sandstone, and that it is 20 cents cheaper per lineal foot.

The Helmer Milling Co., of Fond du Lac, Wis., is erecting an elevator for the storage of crushed stone, sand and gravel. The elevator will be equipped with modern machinery, electrically operated.

The Stephensburg Stone Co., at Stephensburg, Ky., near Elizabethtown, is now crushing about five cars of rock a day, but will double the capacity as soon as the quarry can be improved by lengthening the switches from the main railroad.

The Rosedale Crushed Stone Co., Kansas City, Mo., quietly slipped out of business July 1. James D. Malcolmson, formerly of the company, left the first of the year for Old Mexico, where he is inter-

ested in the Lucky Tiger Gold Mining Co. F. W. Freeborn is still conducting his construction and contracting business, although he has quit the crushed stone business.

The storehouse and crusher of the Wisconsin Granite Co., at Waupaca, Wis., burned to the ground recently in a spectacular fire. The loss was heavy.

The Merriam stone quarry, at Waupun, Wis., has been leased by Boyd & Stoddart.

John Jones, of Berlin, Wis., has been appointed trustee of the property of Burke & Hunt, bankrupt operators of granite quarries in Waushara, Waupara and Marquette counties, Wis. The creditors could not decide upon the selection of the trustee, so the appointment was made by Charles H. Forward, referee in bankruptcy at Oshkosh, Wis.

The constitution and by-laws of the Indiana Crushed Stone Association, as adopted on March 20, 1915, and amended on Jan. 29, 1915, have been put into book form and distributed by Secretary W. F. Connell, together with a list of the active and associate members of the organization.

New Quarry Lien Law.

The general quarry interests of Wisconsin are much interested in a new law relating to liens on stone quarry property, recently passed by both houses of the legislature, signed by Gov. E. L. Philipp and published as Chapter 264 of the Wisconsin statutes. The new law reads as follows: An act to create section 3342m of the statutes, relating to liens on stone quarry property.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

Section 1. There is added to the statutes a new section to read: Section 3342m. 1. Any person who shall perform any labor or services for any person, firm or corporation not the owner of the real estate, engaged in or organized for the purpose of quarrying, crushing, cutting or otherwise preparing stone for building, paving, monumental or other use, or for the purpose of manufacturing lime, operating any quarry under lease from the owner of the land, and any bona fide holder of any draft, time check or order for the payment of money due for any such labor issued or drawn by any such person, firm or corporation, shall have a lien for the wages due him and thereafter to become due and for the amount due on such draft, check or order upon the personal property connected with such quarrying or manufacturing industry owned by such person, firm or corporation, including the interest of such person, firm or corporation in the product of such quarry or manufacturing together with the machinery and other personal property of such person, firm or corporation used in the operation of such quarry or manufacturing, and all the interest of such person, firm or corporation in any lease of the real estate connected with such business, which lien shall take precedence of all other debts, judgments, decrees, liens or mortgages against such person, firm or corporation, except liens accruing for taxes, fines or penalties and except liens created by mortgage or judgment recorded or entered before such labor is performed.

2. Such debt or demand for labor or services become a lien upon the property and material mentioned in the preceding section upon the filing with the clerk of the circuit court of the county in which such labor is performed within 60 days after the first of such services shall be rendered, a petition therefor in writing made and signed by the claimant and verified by him or by some one in his behalf under oath, setting forth the nature of the debt or demand for which the lien is claimed, the amount claimed to be due, a description of the property upon which such lien is claimed and an averment that the petitioner claims a lien thereon pursuant to law. The clerk with whom such claim is filed, shall receive 25 cents for filing the same.

3. The provisions of sections 3331 to 3336, inclusive, of the statutes, shall apply to the foreclosure of the lien so given so far as such provisions are applicable.

Section 2. This act shall take effect upon passage and publication.

A "Rock-the-Road" Convention.

The slogan, "Rock the Road," has been dinned into the ears of Missourians most emphatically the past few weeks, at scores of county road meetings, and dozens of district meetings to promote highways, while the most important gathering of all was held at Kansas City, July 9. This was to promote the construction of a cross-state highway between St. Louis and Kansas City. It was held under the general direction of the Old Trails National Road Association, and the president of that body, J. M. Lowe, presided. There were present more than 250 men from the counties through which the Old Trails route, nationally approved, extends and a remarkable evidence of purpose to improve the roads. Many counties and road districts are preparing to issue bonds for the improvement, and the convention in Kansas City appointed a ways and means committee which will get the money to

help districts that are not able to improve their own sections properly. Colonel Buffum, highway commissioner, suggested that a bulletin should be issued by the state telling of the good and bad roads, as a stimulant to the district to improve their sections.

Among the speakers at the convention were H. Tidd, who extolled brick as a road material, and J. B. Marcellus, representing the Association of American Portland Cement Manufacturers, who gave much valuable information on road improvement in general, and mentioned the place cement is taking in the vast gain in road efficiency and permanence.

The convention meant business. It was seen that it is necessary to get busy at once on the cross-state road, and the almost unanimous sentiment was that the entire road would be "rocked" within a year. Incidentally, as the cross-state road is improved, the counties are plunging into extensive paving of their intersecting highways, one county planning a bond issue of nearly a million dollars for this purpose.

RECEIVER FOR NATIONAL.

Philadelphia, Pa., July 20.—Upon application of more than 50 per cent of the bondholders of the National Limestone Co., of Martinsburg, W. Va., Walter P. Stevens, of Scranton, Pa., was recently appointed receiver of the concern by Judge Dayton in the federal court at Elkins. Receiver Stevens is a son-in-law of J. S. McNulty, of Scranton, president of the company, and has held the office of assistant treasurer since its organization several years ago. Wade C. Kilmer, attorney, was appointed master to ascertain the assets and liabilities of the company. The plant will not be operated pending the court proceedings.

The appointment of the receiver followed the institution of a suit in the federal court by the Northern Central Trust Co., of Scranton, to foreclose a mortgage because of the non-payment of interest in January and July. The company was organized six years ago with a capital of \$1,500,000 and approximately \$800,000 was spent in equipping the 1,100 acres of limestone land near Martinsburg. A plan of reorganization is to be submitted to the bondholders at a meeting to be held in Philadelphia. The bondholders are principally Scranton, Williamsport and Johnstown business men.

INCENDIARY FIRE AT PLANT.

Milwaukee, Wis., July 20.—An attempt was made recently to burn the buildings of the plant of the Union Lime Co., at Grimms, near Manitowoc, Wis., and it is believed that the act was the aftermath of the strike which recently tied up the company's plant at Grimms. The Union Lime Co. has offices in Milwaukee and plants at various points about Wisconsin. The blaze, which was started in one of the kilns, was extinguished before serious damage resulted. The relations between the company and the employees who returned to work after the strike are harmonious, but several men were brought from Chicago at the time of the strike to take the place of those who walked out and they were not retained. Ill feeling was then shown by these outside men.

WILL NOT REBUILD CRUSHING PLANT.

The storehouse and crushing plant of the Wisconsin Granite Co., which was recently burned to the ground at Waupaca, Wis., will not be rebuilt, at least for the present year, according to John J. Sloan, secretary and manager of the company. It was almost entirely due to the lack of fire protection that the recent disastrous fire occurred and a demand for better facilities for fighting the flames is being made before the commencement of reconstruction.

The News in Brief.

The Pearl City Gravel Co., near Muscatine, Iowa, recently purchased a seven and one-half ton auto truck, which will be used in hauling sand and gravel from the new gravel pit to the city. Work at the Pearl City gravel pit has been progressing rapidly during the past few weeks, and within the next fortnight it is probable that the plan will be in operation.

Announcement has been made of an issue of \$1,500,000 six per cent gold bonds of the Union Sand & Material Co., St. Louis, Mo. H. L. Block, president of the sand company, announces the bonds are to refund maturing obligations, furnish additional working capital and to increase plant facilities. The bonds are in denominations of \$1,000 each. They are secured by a direct first and refunding mortgage on all plants and equipment of the company, valued at \$6,400,000. A number of the bonds have been sold.

The O'Donnell Coal Co., of Louisville, Ky., has filed amended articles of incorporation, changing its name to the O'Donnell Coal & Sand Company, and increasing the amount of its capital stock from \$20,000 to \$40,000. The debt limit is likewise increased from \$20,000 to \$50,000.

The River Sand & Gravel Co., of Owensboro, Ky., operated by P. A. Yaeger and J. G. Delker, has purchased additional ground near the old water works and will shortly erect derricks and bins to unload sand from river barges. The L. & N. railroad switch will be extended to reach the new property. At present the company is very busy making deliveries of sand and gravel for road and street work in the city and county.

The sand to be used in the construction of the new post office at Plainfield, N. J., purchased in Kenvil from the Seguire-Bogart Co., has been approved by the authorities at Washington, according to a recent announcement made by the sub-contractors. Samples were sent to Washington some time previous.

M. Mense, of the Osage River Gravel Co., with offices at Kansas City, reports that the business is increasing nicely at this season of the year and that a great deal of gravel is being shipped from the plants along the Osage river. He says that the floods have not affected their operations in the least.

The Crystal Sand Co., Moundsville, W. Va.; has taken over the business of the Moundsville Wall Plaster Co. and also the Robinson Cement Block Co., of that city.

Mr. Mason has leased the plant of the Holly Sand Co., Barnitz, Pa., and will operate it.

The Union Sand & Cement Co., East St. Louis, Ill., will erect a \$10,000 sand plant.

The Silica Sand Works, Rockbridge, Ohio, contemplates rebuilding its plant damaged recently by fire.

The Iron City Sand Co., Harrisburg, Pa., which operates sand hoists at Neville Island and also at Twenty-second street, south side, Pittsburgh, has filed a complaint with the public service commission against the rates of the Pittsburgh and Lake Erie, the Pittsburgh, Chartiers and Youghiogeny, and the West Side Belt railroads from their plants to Banksville and West Liberty. The complainant considers the rates unjust.

During the latter part of June all of the sand bars on the Des Moines river from which sand and gravel and concrete concerns draw their supply of sand were covered as a result of the floods existing in that vicinity. Many concerns, caught without supplies, were forced to remain idle.

The last of the steamboats and sand diggers which have been engaged in digging sand for the Pittsburgh Plate Glass Co. at Tarentum, Pa., for many years, was taken to Ford City, Pa., recently. A large amount of fine sand was secured every year by these diggers.

The Rodgers Sand Co., in this city, is working

this summer the finest fleet of boats and barges ever seen on the local rivers. Its new steel barges are the cause of much favorable comment from sand men all through the country and are a great improvement in making it possible for the company to do rapid work.

George Ryther has sold his sand and gravel business at Pomeroy, Ohio, to E. M. Arnold, a well-known contractor of that place.

OPPOSE SAND ROYALTIES.

Kansas City, Mo., July 19.—By different methods and at different times three different sets of sand companies in Kansas finally have arrived in the federal courts in contesting the constitutionality of the sand royalty act, passed by the 1913 legislature, providing for the collection of revenues by the state for the removal of sand from the beds of streams. The third set of dealers have now filed suit in the federal court to restrain the state executive council from enforcing the act and collecting the royalty. The new suit was filed by Kaw river dealers.

The Jackson-Walker Co. and other dealers along the Arkansas river, first brought suit in the federal court, where litigation still is pending. Then a bunch of Kaw river dealers brought suit in the Shawnee district court, where the law was upheld. An appeal was taken to the state supreme court where the action of the district court was affirmed. Then these companies appealed to the United States district court.

Now the dealers named below, who got sand from the Kaw river, have taken their fight to the federal court, leaving the Stewart-Peck interests and a few smaller dealers the only sand companies in the state not engaged in a fight to have the law repealed: Charles Meierhoffern and W. H. Cafferty, of the Kansas City Sand Co., Kansas City, Mo.; J. J. Paddock, J. A. Paddock and C. M. Paddock, of the Manhattan Sand Co.; O. W. Knight and Paul Orloff, of the Topeka Sand Co., and the Kaw River Sand & Material Co., a corporation of Kansas City, Kas.

SMITH-HOLLINGER NUPTIALS.

The marriage of Russell Frank Smith, business manager of the Lake Sand Co., 19 South LaSalle street, Chicago, and Miss Beatrice Hollinger, daughter of Mr. and Mrs. D. A. Hollinger, 6235 Drexel avenue, Chicago, occurred on June 29 at the home of the bride's parents. Mr. Smith in seven years has come to be one of the most prominent of the younger generation in the building material industry, and has to his credit the establishment of a now important business establishment upon a sound and extensive basis. Mr. Smith's connection with the Lake Sand Co. dates back a little more than three years, prior to which time he was engaged in the lumber business in Gary and Whiting, Ind. He is 27 years of age and was born at La Porte, Ind. The young couple will be at home in Whiting after Sept. 1.

SEEK LOWER SAND RATES.

Pittsburgh, Pa., July 19.—A hearing by the Public Service Commission a few days ago on charges by the Rowena Stone and Sand Co., of Rowena, Pa., the Iron City Sand Co., of McKeesport, and McCrady Brothers, of Braddock, that the Baltimore and Ohio, Pittsburgh and Lake Erie and Pennsylvania Railroad companies, respectively, were charging excessive rates for the transportation of sand and gravel, developed allegations by one of the companies that unless relief was provided by the commission the company would have to discontinue business. George P. Suppes, president and general manager of the Rowena company, said he was forced to pay a rate of 42 cents, but that sand

companies in the Pittsburgh district get a much lower rate. The Baltimore and Ohio Railroad cut the rate from 40 to 30 cents, he said, but increased it later to 42 cents. C. H. Stolzenbach, secretary of the Iron City Sand Co., said the Pittsburgh and Lake Erie Railroad had raised the rate from 42 to 52 cents, which would cause him to lose money. McCrady Brothers asked for a rate of 30 cents on transportation of sand from Braddock to Wilkinsburg. They are now paying 42 cents. Briefs will be filed by counsel for shippers and railroads about the middle of September.

RECENT INCORPORATIONS.

The Cydonia Sand Co. has been organized by H. C. Geist, of Waynesboro, Pa.; W. H. Shank, Chambersburg, Pa.; H. C. Winger, Scotland, Pa., and a number of capitalists from Maryland, to operate a plant near Chambersburg, Pa.; capital, \$18,000; has leased 28 acres of land near Blacks Gap.

The Meadville Sand & Gravel Co., Meadville, Pa.; Walter G. Harper, T. M. Honeywell and C. H. Stainbrook.

The Alicia Sand Co., Alicia, Pa.; capital, \$20,000; James M. Clark, Fayette City, and Charles T. Colbert, Jr., Alicia.

The Ajax Sand Co., Erie, Pa.; capital, \$10,000; T. B. Ely, William L. Scott and F. H. Flowers.

The A. C. McDaniel Co., Cleveland, Ohio; capital \$5,000; stone, sand, gravel; Roy Black, A. C. McDaniel.

Obituary.

HENRY P. STEWART DIES IN KANSAS CITY.

Henry P. Stewart, president of the Stewart-Peck Sand Co., of Kansas City, Mo., and for many years prominent in Democratic politics in Missouri, died at his home at 6:00 p. m., July 2, after an illness lasting two years.

Mr. Stewart was born at Hartford, Conn., 58 years ago. While on a visit to Hartford two years ago he contracted ptomaine poisoning, from the effects of which he never recovered.

At one time, Mr. Stewart was United States marshal at Kansas City. More recently he was president of the Board of Police Commissioners of that city. He always took a keen interest in politics and was a close friend of many of the foremost Missouri democrats.

He is survived by his widow and five children—Duke, Charles, Henry P., Jr., May and Agnes Stewart.

DEATH TAKES P. G. TOEPFER.

Peter G. Toepfer, president of the Acme Brick & Sand Co., with offices in Milwaukee and plant at Barton, near West Bend, Wis., died at St. Mary's hospital in Milwaukee on July 2 at the age of 59 years. Death came unexpectedly, as Mr. Toepfer had been taken to the hospital only two days previous and his wife was still at the summer home at Pine lake. Mr. Toepfer was also head of the W. Toepfer & Sons Iron Works, one of the old institutions of Milwaukee. He was nationally known as a chess player.

Mr. Toepfer was born in Milwaukee on Sept. 1, 1857. At an early age he commenced working in the shop of his father, established in 1855, and was active there until the time of his death.

He invented several appliances used in connection with the brewing and malting trade which were very successful. In 1912 he became interested in a small sand-lime brick yard at Barton, Wis., which was later incorporated as the Acme Brick & Sand Co., and enlarged into a four-press plant, and has been operating steadily since then, more than doubling its output each season. He leaves a widow, a sister and four brothers.

SAND-LIME BRICK

TO BUILD COMPOSITE BRICK PLANT.

An important extension of the brick manufacturing industry in New York was announced recently by the New York City Composite Brick Corporation, which will build a complete plant at Nos. 201, 203 and 205 East 129th street, at Third avenue and the Harlem river, for the manufacture of composite face brick.

The new plant when completed will have a capacity of 80,000 composite face brick daily—24,000,000 every 300 working days. The demand for composite brick in the New York market is estimated to be about 2,000,000,000 a year, with practically the entire supply coming into New York from outside sources. The fact that New York city has no local composite face brick plant is stated to be the primary reason for the construction of the new Harlem river plant of the New York City Composite Brick Corporation, which already has in operation at Winchester, Mass., a plant with a capacity of 60,000 brick daily.

The plans for the Harlem river plant have been approved by the Building Department, the machinery has been ordered and the construction of the building is to start soon. The American Clay Machinery Co. has the contract to install the necessary manufacturing apparatus.

SAND-LIME BRICK IN "NORTH COUNTRY."

The Range Sand-Lime Brick Co., of Pengilly, Minn., in reporting on building conditions in the "North country," stated recently: "Considering the fact that sand-lime brick is practically a new building material for this part of the country, the demand for it has been gratifying. We believe thoroughly in a great future for this big new part of our country."

SAND-LIME BRICK IN SCHOOL BUILDINGS.

One of the most successful and widespread uses of sand-lime brick has been in the construction of public school buildings. Of these one of the most magnificent recently erected in Canada is that of the Sir William Whyte School in Winnipeg. Among the special features is the fact that the building is entirely constructed of sand-lime brick, with limestone trimmings. The Birds Hill Sandstone Brick Co., furnished 827,500 white sand-lime brick for

backing and 132,200 buff color sand-lime brick for the facing. The building contains 24 rooms and cost \$150,000. This school is but one of many which have been built in Winnipeg of this material.

The architectural design and general exterior appearance of the new public school at Coatsville, Pa., is another notable example of the substantial candor of sand-lime brick for buildings of this character. The brick in this instance has a warm, pink color, making a magnificent contrast with the brownstone trimmings, a condition to which no photograph will do justice. The Hummelstown Brown Stone Co., of Waltonville, Pa., furnished the sand-lime brick for this building, 600,000 being required for the facing and backing.

TWO MILLION BRICK IN SIX MONTHS.

The Gary Granite Brick & Stone Co., Highland, Ind., recently stated that business has been somewhat quiet this year, although it has booked some very good orders. The company has shipped nearly 2,000,000 sand-lime brick to date, including material for business buildings, flats, churches, etc. Deliveries of brick are now being made on three schoolhouse jobs, which will require over 1,000,000 more and another school building and flat building will require 1,500,000 additional brick in the near future.

The West Lake Sand & Brick Products Co., L. V. Stevens, manager, Pieton, Ontario, contemplates erecting a plant for manufacturing sand-lime brick.

KISSELKAR TRUCKS IN SEVEN SIZES.

That KisselKar Trucks will hereafter appear in seven sizes—adding one model to the line—is the official announcement from the Kissel factory. The capacities will be 1,000 pounds, three-fourths to one ton, one to one and one-half tons, one and one-half to two tons, two and one-half to three tons, three and one-half to four tons and six tons.

The 1,000-pound delivery is the new member of the group and marks the entry of Kissel into the light commercial vehicle field. It is, therefore, attracting a lot of attention in the trade. The stripped chassis weighs 2,200 pounds and the length over all is a little more than 14 feet. It carries a new Kissel-built block motor of 32 horse power. The wheel base is 115 inches.

Aside from this new model probably the most interesting feature of the Kissel announcement is the adoption of a worm drive rear axle on the medium size models. The worm is of David Brown construction.

All the trucks have Kissel-built motors. The two smaller sizes have 32 horse power, the next two a 36-horse plant, cast enbloc. The two and one-half to three ton has 40-horse power, the two larger sizes a 50-horse power engine.

The Kissels are presenting as features of the truck line several standard body designs, including a street sprinkler and flusher, dumping wagons, fire apparatus, ambulances, police patrols and jitney busses.

"THEY NEVER FADE."

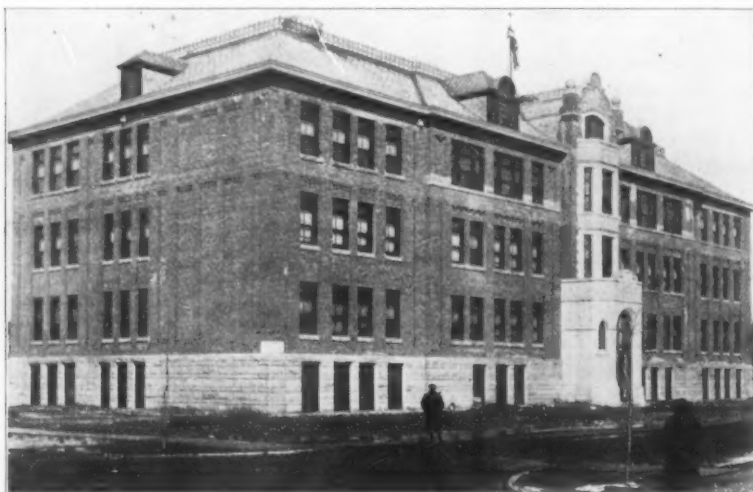
In good brick work—granting that the brick themselves are of the most perfect type—no feature is more essential than fresh appearing and clean-cut mortar joints. Mortar that grows shabby and fades will destroy the beauty of the finest architectural creation. This fact is but one of many, equally important, which the owners of the Ricketson Mineral Paint Works, Milwaukee, Wis., have borne in mind during the 30 years of their manufacturing experience. Not alone in brick work, but for cement work of all kinds, their colors have demonstrated the fact that they absolutely make the cement close and waterproof and their guarantee is "they never fade."

COMPENSATION LAW EFFECTIVE SEPT. 1.

Contractors, builders, supply men, manufacturers and all of the allied trades and other employers are taking a good deal of interest in the provisions of the Workmen's Compensation law, which was enacted by the last meeting of the Indiana legislature. Several material men and contractors were present at a recent meeting of the New Albany, Ind., Chamber of Commerce, at which Frank Smith, Indianapolis, Ind., secretary of the Indiana Association of Manufacture and Commerce, was present and made an address on the new law which goes into effect on Sept. 1.

CATALOG FOR SPANISH TRADE.

A catalog printed entirely in Spanish and which should result in placing its publishers in line with South American trade, is being sent out by Chalmers & Williams, of Chicago Heights, Ill. It is devoted entirely to "Symons" Disc Crusher, which in Spanish is called "quebrador." It shows the various details of the "Symons" disc crusher and is amply supplied with descriptive matter and tables showing what can be expected of a machine in a given amount of time.



SCHOOL BUILDINGS OF SAND-LIME BRICK. SIR WILLIAM WHYTE SCHOOL, WINNIPEG, CANADA, ON LEFT; COATESVILLE, PA., PUBLIC SCHOOL ON RIGHT.

The market place of the building material industry. Employment department, machinery wanted and for sale, etc. If your wants are not answered in this page, write a letter to this office.

THE FRANCIS PUBLISHING CO.
537 S. Dearborn Street Chicago, Illinois

:: THE :: BOURSE

Advertisements will be inserted in this section at the following rates:

For one insertion.....25 cents a line
For two insertions.....45 cents a line
For three insertions.....60 cents a line

Eight words of ordinary length make one line. Heading counts as two lines. No display except the headings can be admitted.

Remittances should accompany the order. No extra charges for copy of paper containing the advertisement.

EMPLOYEES WANTED

WANTED—Reliable and experienced man to take charge of stone crushing plant. Address Box 1062, care ROCK PRODUCTS AND BUILDING MATERIALS.

WANTED—To hear from reliable man to take charge of Lime and Stone business as Manager, or become interested with \$5,000 or \$10,000 investment. Address Box "H," care ROCK PRODUCTS AND BUILDING MATERIALS.

HELP! HELP! HELP!

LET US HELP YOU.

We want employers who are looking for good help to advertise in the "Wanted Employees" column, because we know that they will get good results. ROCK PRODUCTS AND BUILDING MATERIALS.

EMPLOYMENT WANTED

WANTED—Position as Quarry Superintendent or Accountant. Ten years' experience. Go anywhere. Address Box 1060, care ROCK PRODUCTS AND BUILDING MATERIALS.

WANTED—Position as manager of crushed stone plant; have ten years' experience, and understand practical as well as executive part of the industry. Would like a working partnership, or bonus for merit; but am not interested in salary alone. If you want more energy and ambition in your organization let me hear from you. Box 1063, care ROCK PRODUCTS AND BUILDING MATERIALS.



Anchor Brand Colors

For Mortar, Cement and Brick
Brown, Black, Red and Buff
Strongest and Most Durable

Manufactured by **C. K. Williams & Co.**
Correspondence Solicited Easton, Pa., U. S. A.

ARE YOU LOOKING FOR EMPLOYMENT?

A small advertisement in the Employment column will make your wants known and help you to get a position. No difference what kind of a job you want—advertise in ROCK PRODUCTS AND BUILDING MATERIALS, as the paper is read by the people you want to reach. QUICK RETURNS.

TO SECURE

what you want, it is necessary that you attract the attention of the persons interested.

ROCK PRODUCTS AND BUILDING MATERIALS IS THE MEDIUM



Stained with Cabot's Shingle Stains and lined with Cabot's Sheathing Quilt. Robert W. Spencer, Jr., Architect, Chicago

Cabot's Building Specialties

Cresote Stains or Shingles, Siding, Clapboards, Trimmings Boards, and all other Exterior Woodwork.
Waterproof Cement and Brick Stains for waterproofing and artistically coloring cement and brick buildings.
"Quilt" for lining houses to keep out cold or heat, for sound-deadening in floors and partitions, and for insulating cold storage and refrigerators.
Conserve Wood Preservative for preserving Posts, Planks, Sills and all other exposed timbers. Mortar Colors, Protective Paints for Metals, Waterproofing Compounds, etc.

SAMUEL CABOT, Inc., Mfg. Chemists
BOSTON, MASS., U. S. A.
1133 Broadway, New York 24 West Kinzie St., Chicago

BUSINESS OPPORTUNITIES

WANTED—To correspond with parties desiring to establish a sand lime brick business. Address "S," 455 Van Buren St., Battle Creek, Mich.

An excellent opportunity for getting results in any of the headings of this page. No matter what it is, we can render you assistance if you will but give us an opportunity.

CEMENT LIME.—Fine quarry limestone, suitable for high-grade cement. Owner leaving State, and will sell this and other valuable property at sacrifice. B. H. COLLIER, Opelika, Ala.

FOR SALE—Wall Plaster Mixing Plant, 25 miles from New York. Ten acres land, sand plentiful, spring water, switch, good buildings and machinery, established business. Address Plaster Plant, care ROCK PRODUCTS AND BUILDING MATERIALS.

GREEN SLATE PROPERTY.

FOR SALE—In Georgia, immediately on line of L. & N. R. R. (siding already on property), 50 miles from Atlanta. Only known Commercial Slate south of Virginia. Its location and quality should control the markets of the South and Middle West. W. O. WATSON, Charlottesville, Va.

MACHINERY FOR SALE

FOR SALE—Best empty cement bag baler, smallest price. Also brick and block machines. Address W. BARTEN, Gordon, Nebr.

FOR SALE CHEAP—125 h.p. boiler, 100 h.p. engine, brick machine, pulleys and shafting, all in good condition. Address J. P. Vogan, Franklin, Pa.

RAILS

all sizes—small or large lots. New and relaying. We are familiar with quarry requirements and know just what you need. Frogs, switches, splices and all track accessories. Immediate shipment from stock.

L. B. FOSTER CO.

PARK BUILDING PITTSBURGH, PA

G. P. GRIMSLEY, Ph. D. MINING AND CONSULTING GEOLOGIST

Formerly Asst. State Geologist W. Va.; Formerly Geologist on Ohio, Michigan and Kansas Geological Surveys; Ex-Manager National Limestone Company. Consulting Geologist National Limestone Company

Examination, Reports, Consultation on development Limestone, Clay, Gypsum and Coal.

Room 1105 Wyandotte Bld'g. : Columbus, Ohio



The DEALER is offered
CALVERT MORTAR COLOR
for its TRUE WORTH

To Himself, the Builder, the Owner and the Public
By its only maker

CALVERT MORTAR COLOR WORKS
DEPT. R.

Warner & Wooster Sts., BALTIMORE, MD.
Sold to Dealers only A Trial WILL convince you

BRICK and MORTAR

COLORING

After thirty years "CLINTON" colors still stand at the head. Get the genuine, with the "Little Yellow Side-Label."

CORRESPONDENCE SOLICITED.
CLINTON METALLIC PAINT CO., Clinton, N. Y.

Remember

you are losing money by delay in sending us your list of second-hand machinery.

Do It Today—Now

Tell 'em you saw it in ROCK PRODUCTS AND BUILDING MATERIALS

GYPSUM PRODUCTS

Gypsum Tonnage Decreases; Value Increases

According to G. F. Loughlin, of the United States Geological Survey, the production of gypsum in the United States in 1914 was marked by a decrease in tonnage but an increase in value, an increase due to a strong advance in the price of calcined gypsum, which more than offset a decline in price of crude gypsum.

The quantity of crude gypsum mined in the United States in 1914 was 2,476,465 short tons, compared with 2,599,508 tons reported mined in 1913, a decrease of 123,043 tons. The gypsum sold without calcining and used principally as land plaster and as an ingredient in Portland cement and paint amounted to 443,687 short tons, valued at \$646,799, a decrease of 19,449 tons in quantity and \$50,267 in value in comparison with 1913, when the sales for similar purposes amounted to 463,136 short tons, valued at \$697,066. The material marketed as calcined plaster was 1,656,066 short tons, valued at \$6,249,190, as compared with 1,773,849 tons, valued at \$6,077,756, sold calcined in 1913. The total value of all gypsum marketed in 1914 was \$6,895,989, as compared with \$6,774,822 in 1913, an increase of \$121,167.

Considerable quantities of gypsum plaster, or "staff," were used in the Panama-Pacific Exposition building at San Francisco and in the Panama-California Exposition buildings at San Diego, but they were not sufficient to offset the general decline in tonnage elsewhere. A marked increase in the sales of calcined plaster was noted in 1902 and 1903, which also was largely due to the consumption of "staff" for buildings at the Louisiana Purchase Exposition buildings at St. Louis.

Gypsum was produced in 18 states and in Alaska in 1914, the same states reporting output in this year as in 1913. The relative rank of the three leading states has remained unchanged for the last four years, New York ranking first, Iowa second, and Michigan third in the output of crude gypsum.

The quantity of raw gypsum ground and sold for land plaster amounted in 1914 to 52,945 short tons, valued at \$97,716, as compared with 54,815 tons, valued at \$95,953, reported in 1913. The quantity of raw gypsum sold for the manufacture of paint and of Portland cement and for various other purposes amounted to 390,742 short tons, valued at \$549,083, as against 408,321 short tons, valued at \$601,113, sold for similar purposes in 1913.

The total quantity of calcined gypsum sold in 1914 was 117,783 tons less than that sold in 1913, but the total value was \$171,434 greater. Nearly 95 per cent of the domestic calcined gypsum marketed in the United States, or 1,565,937 tons, is used for use as wall plaster, Keene's cement, plaster of Paris, and other uses. About 1,250,000 tons of this quantity represents mixed wall plaster.

There are 78 gypsum mines, including quarries and pits, reported active in the United States in 1914, one of which is in Alaska. These mines supplied 68 domestic mills, of which 61 were calcined plants and 7 produced ground gypsum only. Four new mills were reported in operation last year, three in California and one in New York. One mill, located in Nevada, was reported under construction in 1914. About one-half of the active plants which reported on business conditions reported business practically the same in 1914 as in

1913, and the other half found trade poorer. A few producers considered conditions better. The average price of crude gypsum throughout the country decreased 5 cents in 1914 as compared with the price reported for 1913, and the average price of calcined gypsum advanced 34 cents.

Orders Readjustment of Rates.

Claiming that present carload rates and minimum carload weights on plaster and other gypsum products from Grand Rapids, Mich., to points in Northern Illinois and Southern Wisconsin are unjustly discriminatory as compared with rates and minimum weights on those commodities which the same carriers contemporaneously maintain or join in maintaining from Fort Dodge, Iowa, the Grand Rapids Plaster Co., Grand Rapids, Mich., brought the matter before the Interstate Commerce Commission in October, 1913, and decision was given late in May of this year.

The defendants were the Lake Shore & Michigan Southern Railway Co.; Michigan Central Railroad Co.; Chicago, Indianapolis & Southern Railroad Co.; Cleveland, Cincinnati, Chicago & St. Louis Railway Co.; Chicago Great Western Railroad Co.; Grand Rapids & Indiana Railway Co.; Pittsburgh, Cincinnati, Chicago & St. Louis Railway Co.; Pittsburgh, Fort Wayne & Chicago Railway Co.; Illinois Central Railroad Co., and the Pere Marquette Railroad Co.

The complainant contended that Grand Rapids was 100 miles nearer points in Northern Illinois than Fort Dodge, but had to pay higher rates, and that the latter had the benefit of an alternative and lower carload minimum weight not accorded to Grand Rapids. It stated that the rate from Grand Rapids, which has a 40,000-pound minimum, to Chicago, formerly seven and five tenths cents, and now seven and nine tenths cents, did not apply to as many delivery tracks in the Chicago switching district as did the rate of eight cents per 100 pounds from Fort Dodge, which has a 60,000-pound minimum, to Chicago, with the result that additional switching charges accrue on some Grand Rapids shipments sufficient to overcome the seeming advance in rate.

Commissioner Hall ruled that the present adjustment of rates as between Grand Rapids and Fort Dodge to Northern Illinois and Southern Wisconsin bristles with inequalities, and that a thorough check of the rates on plaster and other gypsum products from Grand Rapids and Fort Dodge to points in this consuming territory should be made with a view to eliminating the discrimination. The carriers will be expected to readjust these objectionable rates within 60 days from the service thereof. No order was entered pending such readjustment.

He also ruled that there is no discrimination against Grand Rapids and in favor of Fort Dodge in the practices of the defendants in making deliveries of plaster and other gypsum products from both points to team and industrial tracks in the Chicago switching district.

SAHARA MAKING IMMENSE IMPROVEMENTS.

For the purpose of increasing the capacity of the Red Buttes (Wyo.) mill of the Sahara Cement & Plaster Co. from 80 to 200 tons of plaster daily, this firm has just purchased part of a new equipment of machinery toward a two-unit plant. The company is also negotiating for the purchase of property for the opening of mills in Kansas, Utah and Nevada.

The mill at Red Buttes is at present selling plaster in Colorado, Wyoming, Utah, Idaho, Montana, Washington, Oregon, Kansas, Iowa and New Mexico. The products of the company are Sahara cement plaster (rock), Pyramid cement plaster (land), plaster of Paris, Keene's cement, gypsum blocks and plasterboards.

The Sahara Cement & Plaster Co. is incorporated with a paid-up capital of \$25,000 and has established offices in the Century building, Denver, Colo. Officers of the company are Theodore Marx, president; William P. Alkire, vice-president; W. S. Fullerton, secretary, and John D. Alkire, treasurer and manager.

CHICAGO PLASTER RULES.

The Employing Plasterers' Association of Chicago, Ill., had adopted rulings which state that no deductions are to be made for openings of two feet or less in width. When the width is greater than that one-half of the area is to be deducted and all openings are to be measured between grounds. In store fronts the entire area is to be deducted and one foot six inches allowed the contractor for each jamb by the height. Other rules for measurement allow one-half the area of openings for ordinary doors and windows, while some make no allowance for openings of less than seven square yards.

FRANK W. WELCH DIES AFTER OPERATION.

Frank W. Welch, 59 years old, of 243 Dakota avenue, Columbus, Ohio, who traveled for the United States Gypsum Co., died following an operation for gall stones at Grant hospital the night of June 24. He had been sick for about a year. Besides his wife, Mrs. Nellie J. Welch, three sons, Morton B., F. Willard, Jr., and K. Robert Welch, and one daughter, Miss Dorris Welch, and his parents, survive. Mr. Welch was a Mason and a member of the U. C. T. fraternity. Burial was at Ionia, Mich.

ENLIGHTENING THE PUBLIC.

The Atlas Wall Plaster Co., Louisville, Ky., recently invaded the editorial columns of the Louisville Times and got some valuable advertising and at the same time showed the public just what can be expected of a high-grade wall plaster.

THE MAN WHO WINS.

(A bit of wandering verse.)

The man who wins is an average man,
Not built on any particular plan,
Not blest with any peculiar luck;
Just steady and earnest and full of pluck.

CLAY PRODUCTS

Prices Unaffected by Haverstraw Strike.

New York, N. Y., July 19.—General movements of clay products have been slow in the New York construction field during the last fortnight, owing to intermittent rainy and clear weather. The strike of the brick yard laborers in the Haverstraw district has tied up manufacturing operations there since the first of June, throwing most of the burden of supplying this market upon up-river manufacturers. Producers operating plants in the Newburgh and Kingston districts have not been shipping an abnormal amount of brick, however, despite the fact that barge companies have been sending the boats usually stopping at Haverstraw further up the river for cargoes. The consuming market has not been able to absorb more than 51 barges a week, even when prices have been made as low as \$5.75 and \$6.

Front brick has had an active call in the Bronx, where there has been a great deal of construction work on apartment house projects, but the general volume, while moderate, has not been worthy of note.

The National Fireproofing Co. has not changed its quotations on exterior or interior block for more than two months, showing that the market for this material is without especial feature. It is reporting, however, a notable gain in the volume of this material that is moving into suburban construction work, there being some small walk-up apartment houses being erected in towns through Union county, in New Jersey, which is about the last county in the New York metropolitan district, save Middlesex, to develop this class of fireproof construction on apartment house scale, despite the fact that Union county adjoins Middlesex, where the main manufacturing plant of the National company is located.

There is a great awakening among clay products interests, owing to the increased demand for this class of interior construction resulting from the higher price of hardwoods and metal.

BRICK MARKET IN COLOMBIA.

(Consul Ross Hazeltine, Cartagena.)

The importation of fire brick and tiling into this consular district is very limited on account of the local manufacture of those building materials. In July, 1914, fire bricks were imported to the amount of \$3,328 from the United States and \$5,028 from England. There were no other imports during the calendar year 1914. The bricks from the United States were purchased by a bakery and used in the construction of an oven. The British bricks were for paving the streets. There is no opening for foreign bricks for building purposes. Cement is imported duty free, and there is a plentiful supply of first-class lime at a reasonable price. Inasmuch as there are no ironworking industries in this district and no other industries requiring fire brick, the market is restricted to paving bricks, which have been purchased exclusively in England. Street paving will probably not be undertaken for some time.

NEW INCORPORATIONS.

The Belden Face Brick Co., Port Washington, Ohio; P. B. Belden and others; \$150,000.

The Dallas Fire Face Brick & Tile Co., Dallas, Texas; capital, \$25,000; plant at Athens, Texas; J. S. Johnston, Merchants' and Manufacturers' building, president and general manager; D. C. Williamson, of Athens, secretary-treasurer-superintendent; capacity, 40,000 brick and 80 tons of tile per day.

Belleville Brick & Tile Co., Belleville, Ill.; capital, \$500,000; company was formed by a merger of the Belleville Brick Co., the Ittner Brick Co. and the National Pressed Brick Co., each of which controlled the plants; incorporators, W. W. Ittner, William Kloess and C. P. Tomlinson.

New Lexington Clay Manufacturing Co., Columbus, Ohio; capital, \$75,000; incorporators, Daniel McKeever and others.

International Brick Co., Las Cruces, New Mex.; capital, \$200,000; incorporators, D. W. Young and others.

Whippany Clay Products Co., Whippany, N. J.; capital, \$125,000; incorporators, Fred E. Handkinds and others.

The Vincent Clay Products Co., Fort Dodge, Ia.; capital, \$200,000; incorporators, H. S. Donald and Leon Vincent.

The Flint Brick Co., Des Moines, Ia.; capital, \$100,000; to manufacture and sell brick and other clay products; H. F. Grafe, president; E. A. Brecht, secretary.

News from the Field.

The chamber of commerce of Macon, Ga., has employed a prominent geologist for the purpose of making a thorough survey of the clay, feldspar and flint deposits of that section of the state.

The Pennsylvania Vitriified Brick Co. has taken over what is known as the Paxson farm near New Hope, Pa., and at the present time has a force of surveyors at work laying out the plant and also to construct a spur to the Reading railroad. Arrangements are also being made to ship brick by boat on the canal, about three-fourths of the output to be moved in this manner. The work is in charge of C. H. Beatty, of Philadelphia, assisted by S. G. Davis, of New Hope, and is expected to be in operation before the year is ended.

Joseph Mayone, Saugerties, N. Y., whose big brick manufacturing plant at Athens was destroyed by fire on the evening of June 8, with a loss of \$30,000, has decided to rebuild. The contract has been awarded to Richard Lenahan, the well-known Athens ship-builder, who will begin construction work immediately. The Mayone plant employed about 75 hands during the brick-making season.

The Seguin Brick and Tile Co. has just been organized and has taken over the large brick and tile plant at Seguin, Tex. The new company is composed of W. B. Fraser and J. H. Payne, of the Fraser Brick Co., of Dallas, and others. J. J. Ryan, of Perth Amboy, N. J., who is said to

be a brick and tile maker of wide experience, has been placed in charge of the plant, which is one of the most modernly equipped in the South. Its machinery is electrically driven and it is prepared to make a variety of clay products. The production will be confined chiefly to interlocking and partition tile, fireproofing material and brick. The Fraser Brick Co.'s plant is located at Ginger, Tex.

The Savage Clay products Co., recently organized at Pittsburgh, Pa., has opened headquarters at 1125 Park building and is a combine of the Freeman & Savage clay interests. The company will build a new plant at Williams, Pa., or Hyndman, Pa., at once and will also rebuild its big plant at Meyersdale, Pa. Among those most largely interested are: William Banfield, of Follansbee, W. Va.; W. D. Crawford, of Steubenville, Ohio; Percy Allen Ross, of Johnstown, Pa.; Charles B. Crawford, of Follansbee, W. Va.; Albert McCombs, of Akron, Ohio; F. W. Owsney, of Steubenville, Ohio.

Traction Wheel Locomotive Crane.

A small traction wheel locomotive crane with clam shell bucket for loading motor trucks and wagons is now being built by the Davenport Locomotive Works, Davenport, Iowa. It is driven by gasoline, kerosene, steam engine or electric motor. The weight is so light that it will travel on standard wheels over ordinary good hard roads without the use of planks, and for work over very soft ground caterpillar wheels are provided.

Besides being provided with the ordinary rotating, propelling and hoisting mechanism usually found on cranes it is equipped with a device by which the operator controls the steering mechanism and travel brakes from the operator's platform.

Although primarily designed for use in unloading gondola cars on team tracks and loading trucks in coal and building material yards, they are found to be very useful to contractors unloading material for country roads, as they travel from place to place under their own power and can be used on the average country switch track. They are also used about lumber yards and various plants which require a locomotive crane and do not have truck facilities for a railroad crane.



IDEAL LOCOMOTIVE CRANE FOR HANDLING SUPPLIES.

A New Mechanical Aid for Loading Trucks.

On a public bulkhead at the foot of West Fifty-first street and Hudson river, New York City, stands one of the new Haiss gasoline-operated wagon loaders, owned by the Colonial Sand & Stone Co. It is driven by a gasoline motor and digs from ground storage material ranging from sand to two and three-inch broken stone. Two and five-cubic-yard trucks are loaded with these materials at the average rate of one cubic yard per minute. Formerly this work took from 30 to 45 minutes and required twice the number of laborers. Three and four stock piles of the various materials are reached by the wagon loader by means of a hand-propelling device. It takes two men usually to do this, one at the steering shaft and one at the propelling crank.

One of the remarkable features about this wagon loader, from an economical standpoint, is the low cost of operation. The maximum consumption of gasoline for every cubic yard dug and loaded comes to the small cost of one-half cent. To this must be added still another economic fact that no skilled labor need be employed to operate the machine. The ease with which the crowding device drives the buckets into heaps of rough broken stone is commendable. In case of an avalanche of material the buckets will secure full loads without recourse to the crowding mechanism.

To meet the work for which these Haiss wagon loaders are installed necessitated a design that could not be built cheaply. The construction is of steel throughout and will outlast a lifetime. All wearing parts, such as the chains, sprocket wheels and buckets are manufactured of very hard steel, while the bearing points are provided with long special bronze bushings, lubricated through large grease cups. In all the wheel hubs roller bearings have been fitted, making it possible for one man to push the loader on a hard, level surface. The motor is water cooled and cannot become damaged by freezing. It is of the slow-speed, stationary type, and requires very little attention outside of supplying it at regular intervals with lubricating oil and water. There are several kinds of fuels on which this motor will run, namely, gasoline, kerosene, alcohol and distillate.

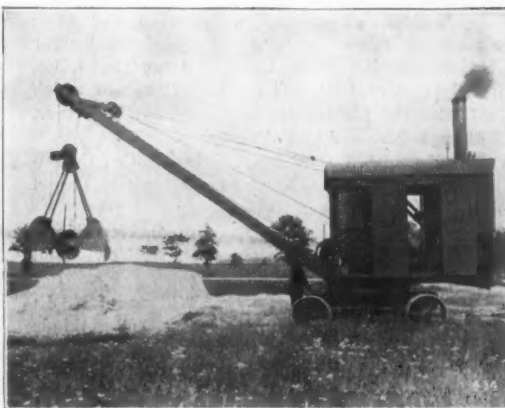
A Haiss gasoline wagon loader produces a saving of time and labor in the sand, gravel and broken stone business, in the coal and coke trades, at gas manufacturing plants, in the oyster farming industry, in steel works, in lime and cement factories and wherever ashes or similar materials must be loaded or unloaded.

The Geo. Haiss Mfg. Co., 141st street and Rider avenue, New York City, are the manufacturers and engineers of the above described wagon loader. Be-

sides the gasoline type they also keep in stock a full line of electrically operated wagon loaders. This company appreciates what a back-breaking, heat-prostrating job it is for men to shovel one and one-half and two-inch broken stone on a hot day. The low price for one of these high-speed loaders should interest dealers in building materials particularly.

Marion-Osgood "18" Clam Shell Outfit.

The above named outfit is now being manufactured by the Marion-Osgood Co., Marion, Ohio. It is designed to be attached to the shovel after the removal of the boom, dipper and handle, all shovels being arranged at the shops to receive these parts.



MARION-OSGOOD "18" CLAM SHELL OUTFIT.

It consists of a structural steel boom 25 feet long; a drum mounted up in the stay frame for raising and lowering the boom; a drum mounted on the floor ahead of the hoisting drum for handling one of the bucket lines, and the necessary wire ropes, sheaves, shackles and fittings for supporting the boom and operating the bucket.

The machine will handle a one-half to three-quarter-yard clam shell or orange peel bucket, but the bucket is not regularly included with the outfit, because usually a specific type is required to conform with certain local conditions, or to meet the views of the purchaser.

The boom is 25 feet long and built up of two converging nine inch steel channels connected across with lattice bars. The point is fitted with two steel sheaves for the bucket lines and the foot is hinged to lugs on the body casting.

The boom hoist is arranged with four parts of five-eighths-inch wire rope passing around sheaves shackled to the outer end of the boom and around sheaves secured to the stay frame on the body

of the machine, then to the winding drum carried in the stay frame. The boom can be raised, from a position with its point resting on a level with the wheel floor, to an angle of 70 degrees above the horizontal.

The winding drum in the stay frame is driven by a spur gear meshing with the hoisting gear driven from the main engines, and engaged with a jaw clutch for lifting. The boom is held or lowered with a brake band, tightened with a screw and hand wheel conveniently located for the runner.

The drum for handling the second line leading to the bucket is mounted on the floor just ahead of the hoisting drum and driven by a gear of the same size as the hoisting and meshing in the same pinion on the engine shaft. The drum is of the cone friction type and provided with a lowering band.

All the gears have cut teeth and are protected by suitable guards.

A set of wire ropes for operating the bucket and for supporting the boom will be furnished with the outfit.

Crane Service.

The machine can be used for crane service, within its range, when equipped with the 25-foot structural boom and the boom raising drum. Its lifting capacities at different radii are as follows: 13-foot radius, 12,000 pounds; 15-foot radius, 10,000 pounds; 20-foot radius, 8,000 pounds; 25-foot radius, 5,000 pounds.

A lifting block with a swivel hook will be furnished for hoisting purposes. This block is provided with a single sheave and so arranged that three parts of rope reach up to the boom for the maximum lift.

The clam shell machine can be used for crane service by removing the bucket and putting the lifting block in its place.

Universal Success Obtained With Good Machinery.

Good men and good machinery, selected by men who know, are essential to success. It was Mr. Carnegie who said that he could attribute his success to "having good men about him and securing machines capable of doing work economically."

In the cement department of the U. S. Steel Corporation, the plants of Universal Portland Cement Co., the machinery which is operating so successfully, was selected by John G. Bergquist and the good men whom he collected about him. While Mr. Bergquist is still consulting engineer for the Universal Portland Cement Co., he is also a director in the Cayuga Cement Corporation, which is a re-organization of the Cayuga Lake Portland Cement Corporation, whose old plant it is rebuilding at Portland Point, N. Y.

Among the new machines being installed are six large style seven, "Maxecon" mills, and six large style "SG" three-step "Perfection" separators, for preliminary grinding of both the raw rock and the clinker making feed for tube mills.

Another prominent man in the cement industry, R. W. Kelly, president of the Virginia Portland Cement Co., is a director of the Cayuga Cement Corporation; its president is J. G. White, of J. G. White & Co., Inc., one of the largest engineering organizations in the world. W. H. Kneiskern is vice-president and general manager.

It is a great compliment to a machine to be selected by men of such experience and knowledge.

Manufacturers of trade-marked materials will be interested in an issue of Tariff Series No. 31 of the Bureau of Foreign and Domestic Commerce of the U. S. Department of Commerce, which contains the addresses of registration offices, duration, fees and formalities of registration of the various countries in this class. The fees referred to are those provided by law and do not include attorneys' fees and other incidental expenses, which naturally vary in specific cases.



THE NEW HAISS GASOLINE-OPERATED WAGON LOADER.

The Sturtevant Exhibit.

The exhibit of the Sturtevant Mill Co. at the Panama-Pacific Exposition has drawn the attention of many hundreds of visitors and is of particular interest to those who have to do with the rock crushing industry. The exhibit consists of rock crushers, crushing rolls, ring-roll mill, Newaygo separator, rotary crusher and laboratory machinery. All of these machines are miniature models of the full-size articles, but all are exact copies and can be operated. The display is in charge of Harron, Rickard & McCone, San Francisco representatives of the Sturtevant Mill Co., whose main office is in Boston, Mass.

SAND AND GRAVEL PLANT CATALOG.

A catalog that is brimful of illustrations and descriptions of sand and gravel plants and their equipment has just been published by the Raymond W. Dull Co., 1910 Conway building, Chicago. Since the entry on an independent basis by Raymond W. Dull in the sand and gravel plant construction industry his success has been phenomenal, and led to the establishment of the Raymond W. Dull Co. The result of his work, as partially published in the catalog, is the best recommendation of his ability to successfully design and construct producing equipment for the sand and gravel industry.

In the catalog the process of washing sand and gravel is briefly described, together with the horizontal and inclined conical screens and scrubbers, waterpans, sand separators, loading spouts and gates, drag-line excavators, hoisting machinery, belt conveyors, elevators and other equipment used in the Dull system of plant construction.

The publication is in reality a treatise on the process of sand and gravel washing and plant construction.

GOOD DEMAND FOR SMALL MIXERS.

There is a good demand for small concrete mixers at the present time, according to C. F. Messinger, of the Chain Belt Co., Milwaukee, Wis., while there is practically no demand for the larger machines. The demand for chain belts is also good, but there

is very little activity in the elevating and conveying line.

Commenting on the attitude of the Chain Belt Co. toward business for the present year, he said: "We are not looking for a big year nor are we looking for a poor one. We are very optimistic."



EXHIBIT OF THE STURTEVANT MILL CO. AT PANAMA-PACIFIC EXPOSITION.

BOOKS FOR THE TRADE

Cement Users

- Portland Cement for Users
Henry Falja and D. B. Butler. Price \$1.20. C
- Cements, Mortars and Concrete
Myron C. Falk. Price \$2.50 C
- Reinforced Concrete
W. H. Gibson and W. L. Webb. Price \$1.00. C
- Hand Book of Cost, Data
Halbert P. Gillette. Price \$5.00. C
- Concrete Construction
H. P. Gillette and C. S. Hill. Price \$5.00. C
- Cement Workers' and Plasterers' Ready Reference
H. G. Richey. Price \$1.50. C
- Reinforced Concrete
A. W. Buel and C. S. Hill. Price \$5.00. C
- Concrete
Edward Godfrey. Price \$2.50. C
- Reinforced Concrete
C. F. Marsh and Wm. Dunn. Price \$7.00. C
- Practical Treatise on Foundations
W. Patton. Price \$5.00. C
- Reinforced Concrete in Practice
A. Alban H. Scott. Price \$1.75. V
- Concrete
Thomas Potter. Price \$3.00. C
- Cement and Concrete
Louis C. Sabin. Price \$5.00. C
- Concrete and Reinforced Concrete Construction
Homer A. Reid. Price \$5.00. C
- Handbook on Reinforced Concrete
F. D. Warren. Price \$2.50. C
- Popular Handbook for Cement and Concrete Users
Myron H. Lewis & A. H. Chandler. Price \$2.50. C
- A Manual of Cement Testing
Richards & North. Price \$1.50. V
- A Treatise on Cement Specifications
Jerome Cochran. Price \$1.00. V
- Manual of Reinforced Concrete and Concrete Block Construction
Chas. F. Marsh and Wm. Dunn. Price \$2.50. V

Cement and Lime Manufacturers

- Bungalows, Camps and Mountain Houses
Price \$2.00. C
- Limes, Cements and Mortars, Concretes, Mastics, etc.
G. R. Burnell. Price \$0.60. C
- Instructions to Inspectors on Reinforced Concrete Construction
Geo. P. Carver. Price \$0.50. C
- Cements, Limes and Plasters
Edwin C. Eckel. Price \$0.60. C
- Practical Treatise on Limes Hydraulic Cements and Mortars
Gen. Q. A. Gillmore. Price \$4.00. C
- Mortars, Plasters, Stuccos, Concretes Portland Cements and Compositions
F. Hodgson. Price \$1.50. C
- Concrete Factories
Robert W. Lealey. Price \$1.00. C
- Portland Cement: Composition.
Richard K. Meade. Price 4.50. C
- Manufacture of Concrete Blocks
Wm. M. Torrence and others. Price \$1.50. C
- Practical Cement Testing
W. Purves Taylor. Price \$3.00. C
- Foundation and Concrete Works
E. Dobson. Price \$0.60. C
- Reinforced Concrete. Mechanic and Elementary Design
John P. Brooks. Price \$2.00. C
- Concrete and Stucco Houses
O. C. Hering. Price \$2.00. C
- Concrete Costs
Taylor—Thompson. Price \$5.00. C

Architects and Engineers

- Building Construction and Superintendence—Masonry Work.
F. E. Kidder. Price \$5.00. C
- Theory of Steel-Concrete Arches and Vaulted Structures. Wm. Cain. Price \$0.50. C
- Concrete Country Residences. Price \$1.00. C
- Graphical Handbook for Reinforced Concrete Design
John Hawkesworth, C. E. Price \$2.50. C
- Theory and Design of Reinforced Concrete Arches
Arvid Reuterdahl. Price \$2.00. C
- Treatise on Concrete, Plain and Reinforced. F. W. Taylor and S. E. Thompson. Price \$5.00. C
- Concrete Steel. W. N. Twelvetrees. Price \$1.90. C
- General Specifications for Concrete Work as Applied to Building Construction
Wilbur J. Watson. Price \$0.50. C
- Rocks, Minerals and Stocks
F. H. Smith. Price \$1.50. C
- Strength of Materials
Edward R. Maurer. Price \$1.00. C
- Highway Construction. Austin T. Byrne and Alfred E. Phillips. Price \$1.00. C
- Refrigeration. Chas. Dickerman and Francis H. Boyer. Price \$1.00. C
- Plumbing. Wm. Beall, Gray and Chas. B. Ball. Price \$1.50. C
- Estimating. Edward Nichols. Price \$1.00. C
- Building Superintendence
Edward Nichols. Price \$1.50. C
- Hollow Tile House. Squires. Price \$2.50. C
- Rock Excavating and Blasting
J. J. Cosgrove. Price \$2.50. J J C
- Estimating and Contracting
W. A. Radford. Price \$2.00.
- Brick Houses
W. A. Radford. Price \$1.00
- Cement Houses
W. A. Radford. Price \$1.00.
- Cement and How to Use It
W. A. Radford. Price \$1.00.

ROCK PRODUCTS AND BUILDING MATERIALS 537 S. DEARBORN STREET CHICAGO

Tell 'em you saw it in ROCK PRODUCTS AND BUILDING MATERIALS

CLASSIFIED BUSINESS DIRECTORY

BAGS AND BAG TYERS.

Faerberhill Mfg. Co. (bag tyers).
Jalco Company, The.
Urachel Bates Valve Bag Co.

BELTING.

H. W. Caldwell & Co.
Chain Belt Co.
Dull & Co., R. W.
Goodrich Co., B. F.
Imperial Belting Co.
Link Belt Co.
Revere Rubber Co.
Stephens-Adamson Mfg. Co.
Webster Mfg. Company.
Weller Mfg. Co.

BRICK.

Belden Brick Co.
Metropolitan Paving Brick Co.

BRICK CLAMPS.

The P. D. Crane Co.

BRICK PAVING.

Metropolitan Paving Brick Co.

BUCKETS, DUMPING AND GRAB.

Atlas Car & Mfg. Co.
H. W. Caldwell & Co.
Haiss Mfg. Co., Inc., Geo.
Hendrick Mfg. Co.
Lakewood Engineering Co.
Link Belt Co.
McMyler-Interstate Co.

CABLES.

American Steel & Wire Co.
Dull & Co., R. W.
Sauerman Bros.

CALCINING MACHINERY.

Atlas Car & Mfg. Co.

CARS, INDUSTRIAL.

Atlas Car & Mfg. Co.
Austin Mfg. Co.
Haiss Mfg. Co., Inc., Geo.
Lakewood Engineering Co.
Link Belt Co.
Stephens-Adamson Mfg. Co.
Weller Mfg. Co.

CASTINGS.

Allis-Chalmers Mfg. Co.
Traylor Eng. & Mfg. Co.

CEMENT, CAEN STONE.

Cleveland Bidra Supply Co.

CEMENT, HYDRAULIC.

Carolina Portland Cement Co.

CEMENT, PORTLAND.

Atlas Portland Cement Co.
Carolina Portland Cement Co.
Chicago Portland Cement Co.
Clinchfield Portland Cement Corp.
Coplay Cement Mfg. Co.
Crescent Portland Cement Co.
Huron-Wyandotte Port. Cement Co.
Kansas City Portland Cement Co.
Lehigh Portland Cement Co.
Marquette Cement Mfg. Co.
Northwestern States Portland Cement Co.
Ohio & Western Lime Co.
Phoenix Portland Cement Co.
Sandusky Portland Cement Co.
St. Louis Portland Cement Works.
Union Sand & Material Co.
Whitehall Portland Cement Mfg. Co.
Wolverine Portland Cement Co.
Woodville Lime & Cement Co., The.

CHAINS.

Chain Belt Co.
Jeffrey Mfg. Co.
Link Belt Co.

CLAYWORKING MCHY.

American Clay Mch. Co.
Bartlett, C. O., & Snow Co.

COAL CHUTES.

Kewanee Mfg. Co.

COLORINGS DRY AND MORTAR.

Samuel Cabot.
Calvert Mortar Color Wks.
Chattanooga Paint Co.
Clinton Metallic Paint Co.
Ricketson Mineral Paint Works.
Williams, C. K., & Co.
Woodville Lime & Cement Co.

COMPRESSORS.

Allis-Chalmers Mfg. Co.
Clayton Air Compressor Co.

CONCRETE MIXERS.

Chain Belt Co.
Jaeger Mach. Co.
Lakewood Engineering Co.
Miscampbell, H.
Power & Mining Mach. Co.

CONCRETE REINFORCEMENT.

American Steel & Wire Co.

CONSULTING GEOLOGISTS.

Grimsley, G. P., Ph. D.
Hunt, Robt. W., & Co.

CORNER BEADS.

Bostwick Steel Lath Co., The.
North Western Expanded Metal Co.
Sykes Metal Lath & Roofing Co.

CRANES—LOCOMOTIVE AND GANTRY.

Cleveland Ry. Supply Co.
Link Belt Co.
McMyler-Interstate Co.

CONVEYORS AND ELEVATORS.

Allis-Chalmers Manufacturing Co.
Atlas Car & Mfg. Co.
Austin Mfg. Co.
Bartlett, C. O., & Snow Co.
Caldwell, H. W., & Sons Co.
Chain Belt Co.
Dull, Raymond W., & Co.
Ehram, J. B., & Sons Mfg. Co.
Haiss Mfg. Co., Inc., Geo.
Jeffrey Manufacturing Co.
Link Belt Co.
McMyler-Interstate Co.
McLanahan Stone Machine Co.
Manierre Eng. & Mach. Co.
Power & Mining Mach. Co.
Stephens-Adamson Mfg. Co.
Toepfer, W., & Sons.
Webster Mfg. Company.
Weller Mfg. Co.

CRUSHED STONE.

A. & C. Stone & Lime Co.

CRUSHERS AND PULVERIZERS.

Allis-Chalmers Manufacturing Co.
American Pulverizer Co.
Austin Mfg. Co.
Bacon, Earl C.
Bartlett, C. O., & Snow Co.
Bonnot Co., The.
Bradley Pulverizer Co.
Butterworth & Lowe.
Chalmers & Williams.
Ehram, J. B., & Sons Mfg. Co.
Jeffrey Manufacturing Co.
K-B. Pulverizer Co.
Kent Mill Co.
Lewistown Foundry & Machine Co.
McLanahan Stone Machine Co.
Pennsylvania Crusher Co.
Power & Mining Mach. Co.
Raymond Impact Pulverizer Co.
Sturtevant Mill Co.
Traylor Eng. & Mfg. Co.
Webb City & Carterville F. & M. Wks.
Williams Pat. Crusher & Pulverizer Co.

DRAIN TILE.

American Clay Co.
Vigo-American Clay Co.

DRIERS.

Loomis Machine Co.

DRILLS.

American Process Co.
Bartlett, C. O., & Snow Co.
Link Belt Co.
Ruggles-Coles Eng. Co.

ENGINEERS.

American Process Co.
Bacon, Earl C.
Dull, Raymond W., & Co.
Fuller Engineering Co.
Grimsley, G. P.
Hunt, Robt. W., & Co.
Improved Equipment Co.
Meade, R. K.
Sauerman Bros.
Schaffer Eng. & Equip. Co.
Smith & Co., F. L.
Stephens-Adamson Mfg. Co.
Traylor Eng. & Mfg. Co.
Yates, P. K.

ENGINES.

Allis-Chalmers Mfg. Co.
Power & Mining Mach. Co.

EXCAVATORS.

Raymond W. Dull Co.
Haiss Mfg. Co., Inc., Geo.
Indianapolis Cable Excavator Co.
Link Belt Co.
McMyler-Interstate Co.
Sauerman Bros.
Weller Mfg. Co.

FIRE BRICK.

Carolina Portland Cement Co.
Improved Equipment Co.
Thornton Fire Brick Co.

FLOOR HARDENER.

Ceresit Waterproofing Co.

FURNACES FOR SPECIAL PURPOSES.

Improved Equipment Co.

GAS PRODUCERS.

Improved Equipment Co.

GATES.

Haiss Mfg. Co., Inc., Geo.

GEARS.

Caldwell, H. W., & Son Co.
Chain Belt Co.
Link Belt Co.
Stephens-Adamson Mfg. Co.
Weller Mfg. Co.

GLASS SAND MACHINERY.

Lewiston Fdy. & Mach. Co.

GYPSUM BLOCK.

American Cement Plaster Co.
U. S. Gypsum Co.
Plymouth Gypsum Co.

GYPSUM—PLASTER.

American Cement Plaster Co.
Best Bros. Keene's Cement Co.
Cardiff Gypsum Co.
Carolina Portland Cement Co.
National Mortar & Supply Co.
Ohio & Western Lime Co.
Plymouth Gypsum Co.
U. S. Gypsum Co.
Wheeling Wall Plaster Co.

HAIR.

Ohio & Western Lime Co.

HOISTS, ELECTRIC AND STEAM.

Allis-Chalmers Mfg. Co.
Link Belt Co.
Haiss Mfg. Co., Inc., Geo.

HOLLOW CLAY TILE.

American Clay Co.
Metropolitan Paving Brick Co.
Vigo-American Clay Co.

HYDRATING MCHY.

Atlas Car & Mfg. Co.
Kritzer Co., The.
Miscampbell, H.

LIME.

Carolina P. C. Co.
Kelley Island Lime & Trans. Co.
Mitchell Lime Co.
National Lime & Stone Co.
National Mortar & Supply Co.
Ohio & Western Lime Co., The.
Owens & Son, John D.
Scioto Lime & Stone Co.
Woodville Lime & Cement Co.

LIME, HYDRATED.

Kelley Island Lime & Transport Co.
Mitchell Lime Co.
National Lime & Stone Co.
National Mortar & Supply Co.
Ohio & Western Lime Co., The.
Scioto Lime & Stone Co.
Woodville Lime & Cement Co., The.

LIME KILNS.

Atlas Car & Mfg. Co.
Improved Equipment Co.

LOADERS AND UNLOADERS.

Ambursen Company.
Chain Belt Co.
Haiss Mfg. Co., Inc., Geo.
Jeffrey Mfg. Co.
Link Belt Co.
Manierre Eng. & Mach. Co.
Stephens-Adamson Mfg. Co.
Weller Mfg. Co.

LOCOMOTIVES.

Davenport Locomotive Wks.

MANGANESE STEEL.

Allis-Chalmers Mfg. Co.
Link Belt Co.

METAL LATH.

Bostwick Steel Lath Co.
Carolina Portland Cement Co.
North Western Expanded Metal Co.
Sykes Metal Lath & Roofing Co.
Trussed Concrete Steel Co.

MOTOR TRUCKS.

Kissel Motor Car Co.
Pierce-Arrow Motor Car Co.

PAINT AND COATINGS.

Cabot, Samuel.
Calvert Mortar Color Wks.
Canfield Oil Co.
Ceresit Waterproofing Co.
Chattanooga Paint Co.
Gordon-Hitt Co.
Ricketson Mineral Paint Co.
Williams, C. K., & Co.

PERFORATED METALS.

Allis-Chalmers Mfg. Co.
Johnson & Chapman.
Hendrick Mfg. Co.
Toepfer, W., & Son.

See Gypsum.

PLASTER.

PLASTER BOARD.

American Cement Plaster Co.
Plymouth Gypsum Co.
U. S. Gypsum Co.

PLASTER BOND.

Ceresit Waterproofing Co.

PLASTER MCHY.

Butterworth & Lowe.
Dunning, W. D.
Ehram, J. B., & Sons Mfg. Co.
Miscampbell, H.
Williams Pat. Crusher & Pulverizer Co.

PREPARED ROOFING—SHINGLES.

Carolina Portland Cement Co.
Reynolds Asphalt Shingle Co.

PUMPS.

Allis-Chalmers Mfg. Co.
International Steam Pump Co.

QUARRY CARS.

See Cars.

ROAD MACHINERY.

Austin Mfg. Co.
Troy Wagon Works.

ROOFING-METAL.

Sykes Metal Lath & Roofing Co.

SAND.

Union Sand & Material Co.

SAND AND GRAVEL WASHING PLANTS.

Dull & Co., Raymond W.
Link Belt Co.
Stephens-Adamson Mfg. Co.
Webster Mfg. Co.
Weller Mfg. Co.

SAND LIME BRICK MACHINERY.

Amer. Clay Machy. Co.

SCALE CARS.

Atlas Car & Mfg. Co.

SCREENS.

Allis-Chalmers Mfg. Co.
American Pulverizer Co.
Butterworth & Lowe.
Chain Belt Co.
Dull & Co., Raymond W.
Ehram, J. B., & Sons Mfg. Co.
Haiss Mfg. Co., Inc., Geo.
Hendricks Mfg. Co.
Johnston & Chapman Co.
Link Belt Co.
McLanahan Stone Machine Co.
Power & Mining Mach. Co.
Stephens-Adamson Mfg. Co.
Sturtevant Mill Co.
Toepfer, W., & Sons.
Webster Mfg. Company.
Weller Mfg. Co.

SECOND-HAND MACHINERY.

Bourse.

SEWER PIPE.

Houston Bros. Co.
Plymouth Clay Products Co.

SHEAVES, BLOCKS AND VALVES.

Haiss Mfg. Co., Inc., Geo.

SINK AND FLOAT TESTERS.

Pennsylvania Crusher Co.

SPREADERS, ROAD.

Troy Wagon Wks. Co., The.

STEAM SHOVELS.

Marion-Osgood Co.
Thew Automatic Shovel Co.

STUCCO RETARDER.

National Retarder Co.

TRAILERS, TRACTORS AND MOTOR TRUCKS.

Troy Wagon Wks. Co., The.

TRAMWAYS.

Ambursen Company.
American Steel & Wire Co.
Link Belt Co.

TUBE MILLS.

Allis-Chalmers Manufacturing Co.
Power & Mining Mach. Co.
Smith & Co., F. L.

WAGONS—DUMP AND REVERSIBLE.

Troy Wagon Wks. Co., The.

WALL PLUGS AND TIES.

Bostwick Steel Lath Co.
Sykes Metal Lath & Roofing Co.

WATERPROOFING.

Cabot, Samuel, Inc.
Canfield Oil Co.
Carolina Portland Cement Co.
Ceresit Waterproofing Co.
General Fireproofing Co., The.
Sandusky Portland Cement Co.

WEIGHING MACHINES.

Schaffer Eng. & Equip. Co.
Sturtevant Mill Co.

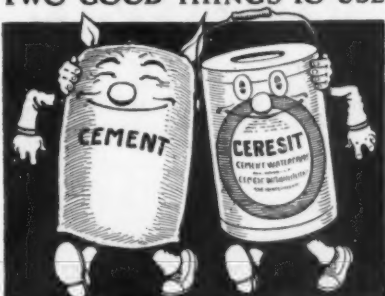
WIRE AND WIRE FENCING.

American Steel & Wire Co.

WIRE ROPE.

American Steel & Wire Co.
Leschen, A., & Sons Co.

Tell 'em you saw it in ROCK PRODUCTS AND BUILDING MATERIALS

<p>Other Good C.W.Co. Sellers</p> <p>Floor Hardener</p> <p>Damp-proof Plaster Bond</p> <p>Damp-proof Coating</p>	<p>TWO GOOD THINGS TO USE</p>  <p>THEY GO WELL TOGETHER</p>	<p>Other Good C.W.Co. Sellers</p> <p>Stone Backing</p> <p>Weather-Wear Roof Coat</p> <p>Ceresitol</p>
--	--	---

In every well-informed architect's office wherever you find a specification for cement you will probably find a specification for *Ceresit Waterproofing Compound*. These two products go hand in hand for permanent, efficient, economical construction.

Ceresit is no experiment. 12 years' service under the most difficult conditions has conclusively proved its waterproofing superiority.

Avoid the score of unknown, unadvertised, unprofitable waterproofings on the market! Don't let them occupy valuable space and remain in stock forever! Handle *Ceresit* and let its popularity, its extensive advertising and our liberal cooperation produce easy, money-making sales for you.

Write for literature and facts

Ceresit Waterproofing Company
924 Westminster Bldg., Chicago



WHEN YOU ABSOLUTELY KNOW THAT

Ricketson's Mortar Colors

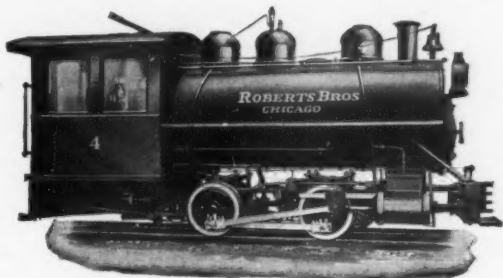
are pure and brilliant in tone, economical in application and a permanent guarantee against fading and washing

Why not INSIST on having them?

They are the acknowledged best for all uses—Mortar, Brick, Cement, Concrete and stone. Red, Brown, Buff, Purple and Black.



RICKETSON MINERAL PAINT WORKS, MILWAUKEE, WIS.



Builders of all types of locomotives for industrial services.

Davenport Locomotive Works
DAVENPORT, IOWA



Facts About the Thew Gasoline Shovel

Not an Experiment With the exception of the power equipment and the means of transmitting it, the Thew Gasoline Shovel is exactly like standard Thew Shovels whose record is substantially established. Power is supplied by a 35-horse-power gasoline engine of standard make.

A One Man Shovel This Shovel requires but one operator. The few levers necessary to control the mechanism are within easy reach and the machine can work without interruption, as no time need be taken for firing.

Reduced Operating Cost The gasoline engine uses only two gallons of fuel per hour, at a cost of from twenty to thirty cents, and a barrel of gasoline will last three days.

Water Supply A small supply of water is needed only to cool the gasoline engine, and when the water tank is filled up, it will last for a week or longer. A non-freezing mixture does away with the danger of freezing in winter.

Boiler Troubles Avoided The gasoline engine takes the place of the boiler and, therefore, no state or local boiler requirements are to be conformed to, and no boiler insurance or other boiler expense must be encountered. All boiler troubles and expense for maintenance are done away with.

Increased Results Owners of the Thew Gasoline Shovel are enthusiastic over the amount of work they accomplish with it. One of them wrote: "A green operator loaded one hundred and ninety-five two-yard wagons in nine hours, good hard digging on a six per cent grade, loading in the rear and waiting for teams at least ten per cent of the time. In my estimation it is the coming shovel."

These and other advantages are explained in special gasoline shovel circular—a copy of which will be sent on request.



Type O Thew Gasoline Shovel— $\frac{3}{4}$ yd. dipper

Sign and Mail or Use for Memorandum

Send us Special Gasoline Shovel Circular and other interesting facts as advertised in Rock Products.

Name

Address

The Thew Automatic Shovel Co.
Lorain, O.



Tell 'em you saw it in ROCK PRODUCTS AND BUILDING MATERIALS

BLAST HOLE DRILLS

The "Clipper"
Gasoline Traction

The "Clipper"
Steam Traction



We make the "CLIPPER"—The drill that is USED!

LOOMIS MACHINE CO., TIFFIN, OHIO

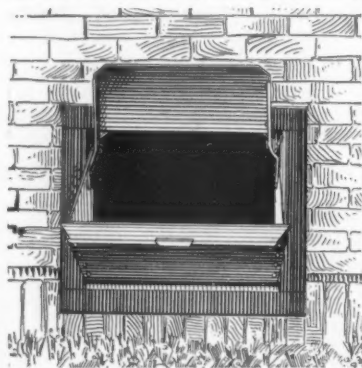
WHITEHALL

PORTLAND CEMENT

**Whitehall Cement
Manufacturing Co.**

1722 Land Title Bldg.
Philadelphia

Kewanee ^{All Steel} Coal Chutes



Boost Your Profits

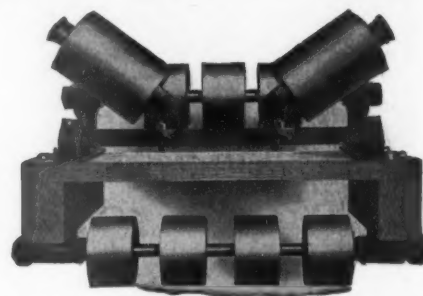
They are absolutely the best protection for the coal room window on the market — constructed entirely of boiler steel, they cannot break.

You can easily sell them to the building trade and boost your profits. What's more, our co-operative advertising plan helps you do this.

Write for our agency proposition today.

Kewanee Mfg. Co.
Kewanee Illinois

IMPROVED BELT CONVEYORS



The cost of handling large quantities of material is one of the great problems in any manufacturing plant. To carry **Crushed Stone, Lime, Ore, Clay, Sand, Gravel, Coal**, etc. by **Belt Conveyor** means small first cost with large output at the minimum expenditure of labor.

The above design of **Belt Concentrator** has been found entirely satisfactory in every kind of service. It troughs the belt and at the same time provides proper support where most needed to sustain the weight of material being carried.

For other Belt Conveyor devices see our

CATALOG No. 38

We manufacture **Helicoid and Screw Conveyors, Chain and Cable Conveyors** for handling Rock, Lime, Sand, etc., also **Elevators, Shafting, Couplings, Bearings, Collars, Pulleys, Gears, Sprocket Wheels, Elevator Bolts, etc.**

H. W. CALDWELL & SON Co.

CHICAGO: Western Avenue, 17th to 18th Street

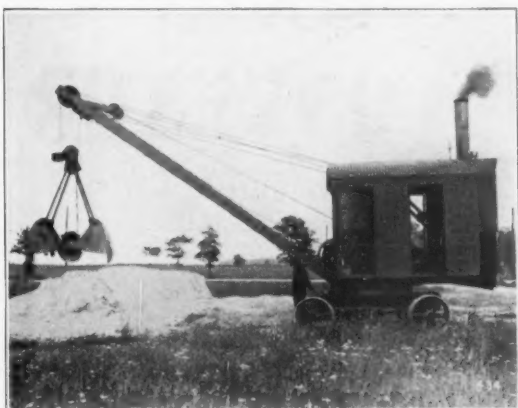
NEW YORK: Hudson Terminal, 50 Church St.

ROCK PRODUCTS and BUILDING MATERIALS

Index to Advertisements

JULY 22, 1915

[illegible]



Steam, Gasoline and Electric Shovels
Deep Water and Dipper Dredges

OSGOOD "18"

$\frac{3}{4}$ -yd., 25-ft. Boom Traction Revolving Clam Shell

This outfit is specially adapted
for loading and unloading cars

The machine can be used for crane service by removing bucket and
attaching lifting block.

Full information cheerfully furnished

THE MARION-OSGOOD COMPANY, Marion, Ohio, U. S. A.



Sand Handling Gantry Crane equipped with a man trolley, 4-line, two yard Clam Shell
Bucket, and rigidly attached hopper to guide the material into the storage reservoirs.

You Can Reduce Your Handling Costs

by the use of proper equipment for your work, which should easily and
economically handle the material it was designed to take care of. That
is why the Edward Ford Plate Glass Company, of Toledo, O., chose a

"McMyler Interstate Gantry Crane"

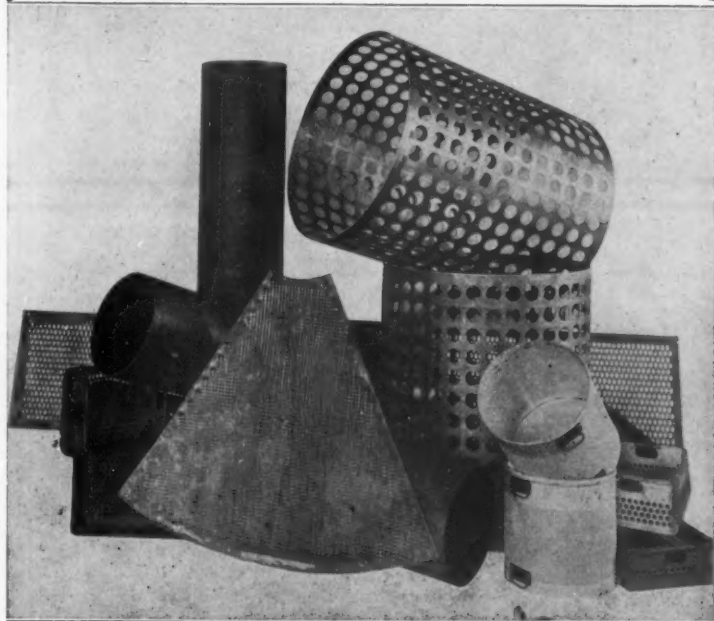
to take care of unloading sand from cars to stock pile, and then to the
mill, as same is needed.

The McMyler Interstate Co. Dept. P-3 Cleveland, Ohio
New York London Chicago

PRODUCTS—Locomotive Cranes, All Type Buckets for every purpose—Elevating and Conveying Machinery, etc.

PERFORATED METAL

STEEL SCREENS :: :: IRON AND STEEL WORK

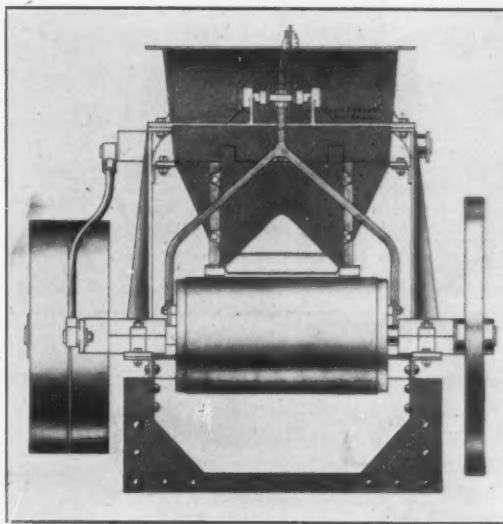


ELEVATOR BUCKETS, STEEL TANKS, ETC.

W. TOEPFER & SONS
ESTABLISHED 1855

183 Broadway

Milwaukee, Wis.



To weigh and
regulate the
flow of ma-
terial trav-
eling in a
continuous
stream over a
conveyor.

The Schaffer Poidometers

ARE ESPECIALLY ADAPTED FOR

Uniting different materials in correct proportions.
Delivering a predetermined quantity of materials to
pulverizing or grinding machinery.
Feeding crushed coal to boilers.
Loading materials into cars or vessels and giving a
record of the quantity loaded.

The Schaffer Eng. and Equip. Co.
TIFFIN, OHIO

Tell 'em you saw it in ROCK PRODUCTS AND BUILDING MATERIALS

Every plant is "tied to its conveyors." Well, I'm tied to Goodrich because it's the belt that keeps my conveyors on the job all the time.
-Supt. Wise

The average plant needs uninterrupted service from its conveyors. They are its arteries—along which flow the materials used in its business life.

Tie up to this fact: We have studied out *your* conveying problem. Our engineers are ready to walk into your plant, equip you with belt or belts especially designed to meet your industrial conditions. Then goodbye breakdowns, delays, spillage, stretching, shrinkage, lost tonnage.

Goodrich

LONG LIFE MAXECON
CONVEYOR BELTS

are backed by our forty-five years' experience combining fabric and rubber. They are made in the largest rubber plant in the world. Our success is due largely to "Goodrich Service"—just the sort of service we are now offering to *you* and we firmly believe it will be to your financial advantage to know about it. It costs nothing in money or obligation to "**Get in touch with Goodrich.**"

Goodrich Products:

Conveyor Belts	Hose—all kinds
Elevator Belts	Packing
Transmission Belts	Valves, etc.

The B. F. Goodrich Company

Factories: Akron, Ohio



"Get in touch with Goodrich"



EXPANDED CUP
**SYKES SELF FURRING
METAL LATH**
SAVES 3 TO 5¢ A SQ. YD.

Costs Less Because of Labor and Material It Saves

Sykes Expanded Cup Metal Lath, by saving furring strips saves money to owner and contractor. It is **Stronger, Heavier and Better** than other metal laths, because the strands are **wider**. Therefore, the lath weighs more when cut from the same gauge metal. Judge metal lath by **weight** and **gauge**, not by gauge alone.



Expanded Cup Lath Self Furring

is best for interior or exterior work. No furring strips. So crimped as to make a perfect key for mortar. Makes itself a backbone of everlasting strength.

Endorsed by architects. Approved by U. S. Government for Post Office work.

Free Book and Sample. Book gives complete specifications for Stucco Work on Metal Lath—it will save you money. Write for it, addressing—

**Sykes Metal Lath and
Roofing Company**
508 River Road, Warren, O.



Tell 'em you saw it in ROCK PRODUCTS AND BUILDING MATERIALS

New Waterproofing Standards With GF Products

Expert waterproofing service seems to us the most profitable basis upon which a dealer can handle waterproofing materials.

Accordingly, GF Waterproofings, twenty-four products in all, will be marketed with this new idea of service first and most important. There will be no need for a hard and fast recommendation of one method and one material for every job you meet. Rather, GF Dealers with many methods and many materials at their command, will be able to select the best method and the proper material for each individual piece of work.

With the intelligent help of our waterproofing Service Department; with GF advertising and catalogs built along these lines; with the GF reputation for service on all of its products, a permanent, profitable waterproofing business can be quickly established in your community.

Every condition has been carefully provided for in the GF Line—integral waterproofing, membrane waterproofing, dampproofing, acid-proofing, floor hardening, floor and wall coating, steel and galvanized iron coating. No matter what the problem, there is a GF method and material that will solve it effectively.

We'll gladly explain our dealer proposition if you are interested. It is new and aimed to increase your profits thru service to your customers.

The General Fireproofing Co.
1970 Logan Avenue
Youngstown Ohio

THE PROFIT COLUMN

JULY 22, 1915

For readers of ROCK PRODUCTS AND BUILDING MATERIALS

A FEW WORDS ON QUALITY

Its Importance to Dealers

Dealers in builders' supplies, in the case of some dampproofings, have been up against the proposition where they were not sure that the product would carry out its claims and that therefore they would injure their future patronage. It is a very essential duty to every customer and to the dealers own business that the quality of the waterproofing which he handles must be of the very highest.

Can-O-Co Dampproofing Compound will compare with the best waterproofing made, with a quality unsurpassed. Can-O-Co No. 777 and 686 will weathervproof and dampproof any building material of Stone, Brick, Cement, Concrete or Stucco, whether the moisture must be contended with from within or without. It will protect and preserve every material on which it is laid against rust, corrosion, decay, alkalies, acids or thermal changes. Both grades are heavy compositions being absolutely free from coal tar. Coal tar is not durable when exposed to underground water. Can-O-Co is indestructible under such conditions, because it is made from natural materials which have been exposed to underground water for ages.

Why not write to
us for proofs of
the high quality of
CAN-O-CO
Dampproofing
Compound?

Write today

The Canfield Oil Co.
CLEVELAND OHIO

Tell 'em you saw it in ROCK PRODUCTS AND BUILDING MATERIALS



Haiss Gasoline Operated Wagon Loaders

Equipped With the Guaranteed Novo Engines

Gasoline Power affords the means by which the HAISS patented self-digging Wagon Loaders may work in all parts of the country. Road contractors and coal dealers are working them under bottom dump cars for unloading trap rock and coal, and in digging material from local sand and gravel pits. Loading speed = 1 cu. yd. per minute. Power cost per cu. yd. = 1/2 cent. Can be tipped down. Roller bearings in wheels. Has a propelling device. May be hitched to a truck or team for transportation. Crowding device digs material and elevates it, all at the same time. No expense to install machine. Write for cost data while you think of it.

THE GEORGE HAISS MFG. CO., Inc.
146th Street and Rider Avenue
New York City

DEALER COOPERATION + DEALER COOPERATION + DEALER COOPERATION + DEALER COOPERATION

GORDON COATING



FOR SURFACES of Cement, Stucco, Brick, etc.

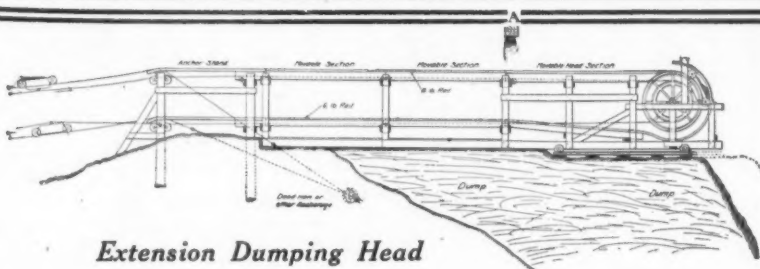
Through our years of experience in the paint business, we have developed a coating for surfaces which is unsurpassed.

Gordon Coating is manufactured in white and eight shades.

This is a dealers' proposition. Write to-day for our interesting offer.

GORDON - HITTL CO., 85 Purchase St., BOSTON, MASS.

DEALER COOPERATION + DEALER COOPERATION + DEALER COOPERATION + DEALER COOPERATION



Extension Dumping Head

The Extension Head

The problem of a movable or multiple dumping point is met by us in three different ways, the choice being governed by the conditions of service.

It often happens that a tramway is called upon to dump waste material on to a permanent spoil bank. The illustration is that of a coal mine which dumps its slate and gob over the crest of the mountain into a valley

beyond. Ultimately this spoil bank will extend across the entire valley, a distance of 2,000 feet, and in the bottom of the valley will show a height of say 200 feet. Such a spoil bank will contain an immense amount of material and will serve for many years of continuous operation. In such a case it is most convenient to allow the tramway to extend itself along the top of the embankment which it creates.

The cables of the tramway are anchored permanently at the crest of the mountain. They deliver the car in the usual way to an anchor stand which in turn connects with a series of movable sections framed out of light timber and carrying a light T rail for the top and bottom lines. These sections may be made of any desired length, 10 feet being found practical in this case.

The removable sections connect to the frame of the dumping wheel which is mounted on flanged wheels running on a movable rail resting on temporary ties exactly like a steam shovel.

In dumping, the waste material is thrown away from the dumping head with considerable force and gradually builds up the embankment as indicated by the dotted line. When the embankment is so high as to interfere with free dumping it is roughly levelled off on the top by hand placing so as to receive the ties for the next shift. The dumping head is then disconnected at point "A," rolled forward on loose rails, say 10 feet, the length of a section and the gap filled with another section. One piece of haul rope is then taken out between any two cars and a correspondingly longer piece inserted. This completes the operation, the whole thing requiring an hour or so to shift.

The little piece of haul rope is not waste because when the dumping head is advanced a distance equal to half the interval between the cars a new car is coupled in to maintain the total capacity and the various pieces of haul rope, having been preserved are used over again on further extensions. In this way the tramway continually creeps ahead, using its own dump as a foundation.

We have a suspended terminal used under other conditions and still other requirements call for dumping cars. These will be considered separately.

Respectfully submitted,

**Tramway
Department**

Ambursen Company

**61 Broadway
New York**

Tell 'em you saw it in ROCK PRODUCTS AND BUILDING MATERIALS

Name Your Cement Requirements

Prompt delivery on your orders—insured by the location of our mills and their railroad connections.

Co-operation in selling to your customers—fully developed in our 1915 advertising and selling campaigns.

Standard Grade—demanded of every binful of our cement before it goes into the sack bearing the Lehigh label.

Quality, that will bring re-orders and permanent customers.

These are essentials in the cement which will bring to you increasing profits and a growing business.

The answer is



MILLS:

Ormrod, Pa., West Coplay, Pa., Fogelsville, Pa., New Castle, Pa., Mitchell, Ind., Mason City, Ia., Metaline Falls, Wash.

OFFICES:

Allentown, Chicago, Spokane, New York City, Philadelphia, Boston, Minneapolis, Savannah, Des Moines, New Castle.

12 Mills—Annual Capacity Over 12,000,000 Barrels

Guaranteed Quality

That's what you sell when you handle

Marquette Portland Cement
"The Certified Cement"

On every bag we attach a green guarantee tag; it certifies that Marquette Portland Cement has been thoroughly tested in our laboratories and is guaranteed to conform to Standard and Government Specifications.

You know the value of the guarantee; now let us tell you more about Marquette.

Marquette Cement Mfg. Co.
1335 Marquette Bldg. Chicago

Northwestern Portland Cement



The Reliable Portland Cement

A Portland Cement for the

NORTHWEST

NORTHWESTERN STATES PORTLAND CEMENT COMPANY
MASON CITY, IOWA



"WOLVERINE"

THE ALRIGHT CEMENT

Made Right Sold Right
Works Right Wears Right

The Best is None Too Good For You.
Insist Upon

"WOLVERINE"

Write for Booklet and Quotations.
Factories at Coldwater and Quincy, Mich.
Capacity 3500 Daily.

W. E. COBEAN, Sales Agent, Coldwater, Mich.

Wolverine Portland Cement Company
MAIN OFFICE, COLDWATER, MICHIGAN

Tell 'em you saw it in ROCK PRODUCTS AND BUILDING MATERIALS

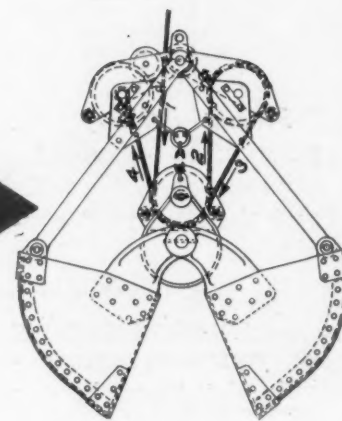
ECONOMY AND EFFICIENCY

in the handling of Rock, Sand and Gravel, Clay, etc.



Are you handling your materials as economically and efficiently as possible? Have you studied carefully the various types of buckets and compared them with the "Lakewood" Bucket?

The "Lakewood" Clam Shell Bucket is the result of 18 years of manufacturing experience—a powerful and efficient bucket, that will work well and pay well under all conditions of service.



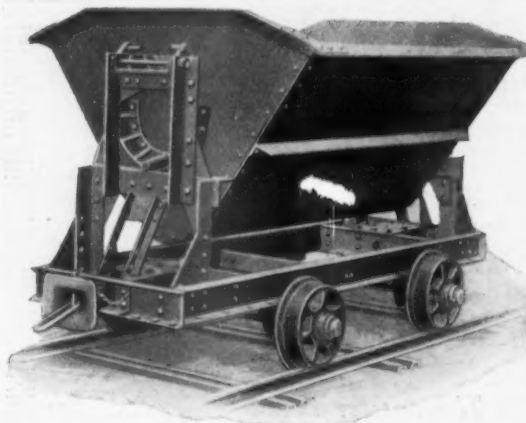
The value of an excavating bucket depends upon its ability to take a large load at each grab and to open and close quickly, thus giving great working capacity. It has been repeatedly proven that the "Lakewood" Bucket has far greater working capacity than any other bucket, regardless of type!

"THE LAKEWOOD LINE==BUILT TO LAST"

THE experience of this Company in small steel cars for industrial and quarry use has been one of continued specialization for 18 years. The trademark, "Built to Last," has been adopted as the distinguishing feature of the "Lakewood" cars.

Manufactured in all sizes and types—of the most durable materials possible and strongly designed for the particular purpose.

Lakewood Catalog No. 16 is devoted exclusively to showing many of the interesting types of quarry cars.



The Company invites the trade to call upon the Consultation Service of our Engineering Department for suggestions as to the design and installation of equipment. Give as much information as possible regarding the conditions under which you are operating, the kind of material to be handled, etc. We will give you the benefit of our experience and furnish specific information as to what Lakewood Buckets and Cars are doing under conditions similar to yours.

THE LAKEWOOD ENGINEERING CO. CLEVELAND

NEW YORK
Brown & Sites Co.,
30 Church St.

BALTIMORE
Munsey Building

PITTSBURGH
1230 Fulton Building

CHICAGO
506 S. Canal St.

KANSAS CITY
909 N. Y. Life Bldg.

The Ohio Ceramic Engineering Co.
The Electric Locomotive & Car Co.

SUCCEEDING
The Cleveland Car Co.

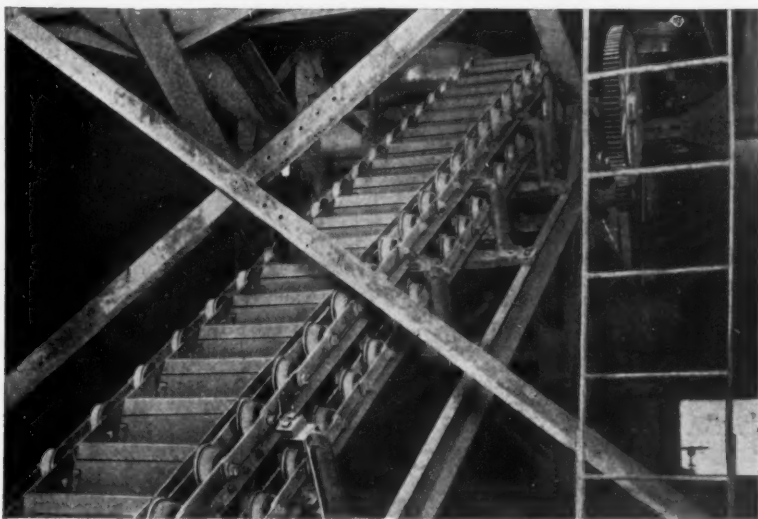
The Pittsburgh Dryer Co.

The Industrial Car Co.

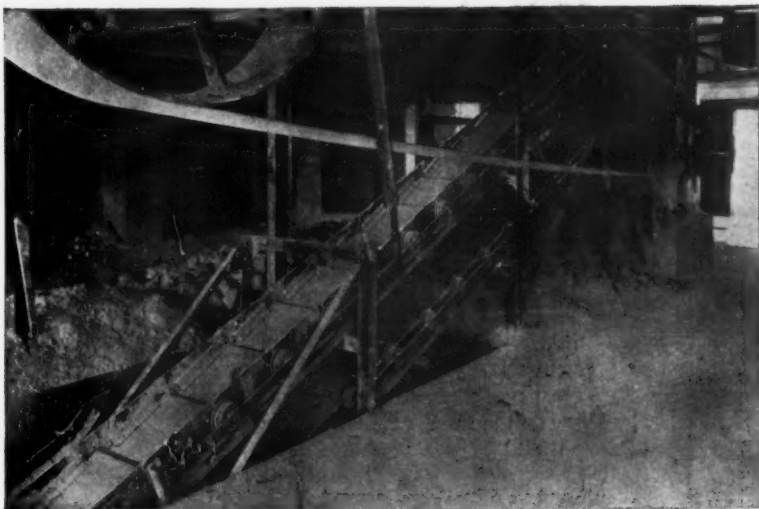
Tell 'em you saw it in ROCK PRODUCTS AND BUILDING MATERIALS



LONG-LIFE CONVEYORS



Open Top Carrier for Delivering Cement Clinker to Mills.



Apron Conveyor for Carrying Lump Lime to Crushers.



Open Top Carrier for Handling Phosphate Rock.

For Handling Rock, Stone, Sand, Gravel, Cement Clinker and Kindred Materials.

Must be designed in such manner, and built of such materials, as to enable them to endure the abrasion, corrosion, heating, and other abusive conditions inseparable from the service they are required to perform.

Saving in quality for equipment of this class is likely to prove a wasteful economy

We make conveyors of high grade for these lines of work, in various types to suit the different requirements of all situations.

Belt Conveyors Screw Conveyors
 Open Top Carriers
 Flight Conveyors Apron Conveyors
 Pivoted Bucket Carriers
 Continuous & Spaced Bucket Elevators

*Name us your requirements.
 We'll meet them*

The Webster M'f'g Company

CHICAGO
 McCormick Bldg.

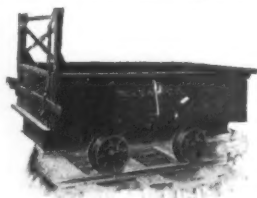
Tiffin, Ohio

NEW YORK
 90 West Street

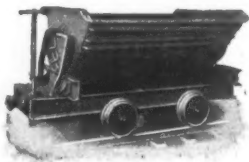
Tell 'em you saw it in ROCK PRODUCTS AND BUILDING MATERIALS



Lime Hydrators, Kilns, Calcining and Quarry Cars



No. 274
End Dump Quarry Car.



No. 217-H Rocker Side Dump Car
Also made in end dump. Above
car made for loading with
steam shovel.

Reduce Your Handling Costs BY USING ATLAS CARS AND LOCOMOTIVES

Where a trolley wire or third rail is undesirable investigate our storage battery locomotives. Made in several styles and sizes. Cars to suit every requirement.

THE ATLAS CAR & MFG. CO.
909 Marquette Road
Department 6
Cleveland, Ohio



WHITE-PURE WHITE
non-staining Atlas-White
Portland Cement is worth
finding out about. Literature
gladly sent on request.

"Concrete for Permanence"

WRITE US FOR PRICES ON

PAPER BAGS

for

**Lime, Cement, Plaster, Ground
Stone, Fertilizer, Etc.**

The Urschel-Bates Valve Bag Company
Toledo, Ohio

[Address all communications to the company at Toledo, Ohio.]

BRANCH FACTORIES: Niagara Falls, Ontario, Can., Pittsburgh, Penn.

YOUR PAN NEEDS

THIS pan is the identical pan required for your plant and it should speak to you convincingly of our pan quality. It has put many Sand-Lime Brick Plants on a paying basis and will make money for you. There is no line of pans made which will compare with the "Built Right, Run Right" line and your needs can be fully taken care of from our peerless line. We build pans with a range in size and capacity to meet any need. These pans are adapted for all the work that any pan will do. We have them in both belt and motor drive and will be pleased to give you any points on our pans that you may inquire about.

A poor pan is an expensive proposition. Its inefficiency shows in the quality of your product and the size of your repair bills. It also limits your capacity by handicapping the rest of the equipment. Real

economy would suggest that your pans be the best possible. We will be pleased to talk pans or any other equipment with you.

*We Build Complete Equipments for
Sand-Lime and Clay Brick Plants*

The American Clay Machinery Co.
Willoughby, Ohio, U. S. A.



Tell 'em you saw it in ROCK PRODUCTS AND BUILDING MATERIALS